When Two Worlds Collide: Exploring and Conceptualising the Professional Identity Construction and Role Performance of Sales Engineers in B2B Selling

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for the degree of
Doctor of Business Administration

By

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This work is dedicated to my extraordinarily patient wife, Yvonne; to my wonderfully supportive children, Alyssa and Brooks; and my amazingly persistent mother, Fran. You never missed an opportunity to ask when I would finally finish working on this thesis, and you encouraged me to stick with it and get it done. Thank you for helping to keep me focussed on the goal!

Thank you to Dr George Mastorakis, Dr Jill Shepherd, and Dr Boštjan Gomišček for your invaluable insights, guidance, and expertise.

Abstract

In business-to-business selling organisations, managers find it difficult to hire, develop, and retain expert sellers, such as sales engineers, who possess and provide the necessary mix of technical skills, customer skills, and hands-on experience to meet increasingly ‘technicised’ buyer requirements. Gaps in understanding the sales engineering role and professional identity can cause managers to be ineffective in the planning, deployment, and administration of the practice of sales engineering in business-to-business sales organisations.

This study engages 18 experienced sales engineers, from three organisations, using methods of hermeneutic phenomenology and action research to examine and improve the ways in which they construct their professional identities, develop their sales engineering practices, and perform the sales engineering role in the face of changing buyer expectations. Furthermore, this study seeks to understand how these sales engineers successfully synthesise the juxtaposed ‘worlds’ of engineering and sales that are the domains of the sales engineer’s role. This research illuminates, conceptualises, and implements actions concerning the way that sales engineering is performed in support of business-to-business selling. A by-product of this study is an examination of the ways in which sales engineering has evolved toward a ‘natural’ and practical application of service-dominant logic.

This study contributes to theory and practice through the development of two conceptual frameworks. First, a non-linear recurring lifecycle that SEs traverse as they establish, develop, practise, adapt, navigate, and synthesise their roles and identities in the pursuit of becoming expert technical sellers in their professional identities and roles. Second, a practical understanding of the competencies, knowledge, skills, behaviours, and outcomes developed and practised by expert SEs in their professional roles and identities. These conceptual frameworks provide a coherent way for scholars and practitioners to understand, apply, and engage with the practice of sales engineering in business-to-business selling.

Declaration of Work

I declare that this thesis is my own work and composition. This work has not been submitted for any other degree or professional qualification. Where I have quoted the ideas or writings of others, credit is given through the use of appropriate acknowledgement, quotations, citations, and references.

James L. Wagstaff

5 April 2021

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Definitions

Actors – In service-dominant logic, actors are participants (e.g. buyers and sellers) in the exchange of value who engage by adopting roles as equal and interdependent stakeholders.

Business-to-Business – Buyer–seller relationships and related exchanges of value or transactions that occur between organisations rather than between a business and individuals.

B2B – See 'Business-to-Business'.

Buyer – In business-to-business exchanges of value, a buyer is the economic decision-maker with purchasing authority and budget.

Customer – In business-to-business exchanges of value, the term 'customer' is often used interchangeably with the term 'buyer'. However, 'customer' more accurately refers to the user or beneficiary of the solution being deployed in B2B settings.

Dasein – Dasein is a German word that means 'being there' or 'present' and can be translated in English as 'existence'. Dasein represents a fundamental concept in certain approaches to phenomenology and phenomenological research methods.

EDPACS – Acronym for the conceptualisation of a non-linear lifecycle established in this work and covering the professional role and identity Establishment, Development, Practice, Adaptation, Conflict, and Synthesis of sales engineers.

Goods-Dominant Logic – A view that value exists inherently in a commodity and that value can be created by exchanging capital for goods or services.

G-D Logic – See Goods-Dominant Logic.

Identity – The social and psychological process internalised as the sense of self. Identity emerges as the result of a back-and-forth social process that occurs through the interaction of individuals with (and within) groups (e.g. organisations).

Identity Work – An interpretive set of activities in which a sense of self emerges from the search for stability based on the influences of groups and other individuals in society (e.g. in work situations).

Technicisation (in sales) – The increasing need for, presence of, and infusion of, technical expertise and engineering knowledge in business-to-business sales interactions. The increasing importance of technical experts in buyer–seller interactions and networks.

Sales Engineer and Sales Engineering – An individual (sales engineer) or function (sales engineering) that is primarily concerned with engaging and advising customers regarding the design and purchase of equipment, software, capabilities, or services that require engineering skill to be effective.

SERIF – Sales Engineer Role and Identity (Conceptual) Framework

Service-Dominant Logic – A theoretical framework that describes value creation as an exchange of services between equal and interdependent actors (see Actors). Actors in service-dominant logic apply their capabilities for the benefit of others and, in doing so, receive benefit through what is referred to as the 'co-creation of value'.

S-D Logic – See Service-Dominant Logic.

SE – See Sales Engineer.

Spiff – A bonus or incentive to encourage a particular sales behaviour, such as pushing a particular product or service.

Chapter 1: Introduction

1.0 Shifts in Buyer Expectations Drive Supplier Sales Evolution

The purpose of this research is to explore, illuminate, conceptualise, and implement actions concerning the way that sales engineering is performed in support of business-to-business (B2B) selling. This study engages 18 experienced sales engineers (SEs), from three organisations, to examine how they construct their professional identities, develop their sales engineering practices, and perform the SE role in the face of changing buyer expectations. Furthermore, this study seeks to understand how these SEs successfully synthesise the juxtaposed 'worlds' of engineering and sales that are the domains of SE role performance (e.g. Bumblauskas et al., 2017). The desired contribution of this study is to discover and apply new knowledge to aid SEs and their managers as they work to successfully navigate shifting buyer expectations (e.g. Vargo & Lusch, 2017) within the evolving B2B buyer-seller dynamic (e.g. Ryals & Rackham, 2015).

Managers of supplier organisations in B2B commercial engagements face a number of interrelated problems stemming from a buyer desire for greater focus on value creation and more predictable business outcomes (Rantala et al., 2019):

- Buyer requirements are evolving because of an acceleration of digitalisation in most aspects of business, including products, services, and distribution channels, in what is called the 'Fourth Industrial Revolution' (e.g. Ritter & Pedersen, 2020).
- For buyers, digitalisation has blurred the boundaries between traditional relationship-oriented approaches in B2B selling and more technically oriented, outcome-based sales practices (e.g. Syam & Sharma, 2018).
- B2B suppliers face pressure to navigate increasingly 'technicised', service-dominant (S-D), and value-oriented requirements in B2B selling (e.g. Darr 2006, 2015; Lusch & Vargo, 2019; Pullins et al., 2017).
- B2B organisations have begun relying on technical experts (e.g. SEs) as sellers in pursuit of greater value creation and positive business outcomes (e.g. Kaski et al., 2017; Rantala et al., 2020).

- Managers find it difficult to hire, develop, and retain expert sellers, such as SEs, who possess and provide the necessary mix of technical skills, customer skills, and hands-on experience (e.g. Reunanen et al., 2018; Röhr, 2016).
- Managers and SEs lack a consistent conceptualisation of the SE role to guide the coherent establishment, development, adaptation, and performance of sales engineering in B2B selling (e.g. Zoltners et al., 2008).
- Gaps in understanding the SE role and professional identity cause managers to be ineffective in the planning, deployment, and administration of the practice of sales engineering in B2B sales organisations (e.g. Handley et al., 2017).

These broad challenges form the backdrop of specific areas of focus in this thesis, and the basis for action research, pertaining to the core management problem addressed in this study.

For the first 20 years of my career, I worked in B2B supplier organisations in the information technology sector. For most of those two decades, I was a sales engineer, then a sales engineering manager, before being asked to lead regional sales engineering organisations. For the last decade, my role has changed to that of a consultant to large, multi-national, B2B technology providers. Throughout my career, as a practitioner, I have directly witnessed the changes in the B2B landscape, the evolving relationship between buyers and sellers, and a growing reliance on technical experts as sellers.

As a previous leader of sales engineering organisations, and now as a consultant to companies who desire to strengthen their approaches to sales engineering, my orientation to this subject is that of an ‘insider’. In my own experience, business-to-business sales leaders are engaged in a long-term struggle to overcome a persistent scarcity of experienced SEs who have the ability to successfully and expertly synthesise technical know-how and customer skills (Dean et al., 2017).

Three executive sponsors in the Asia-Pacific head offices (in Singapore) of three multi-national technology suppliers supported this research into the lived experiences of several experienced SEs from each of their organisations. During a cycle of action research, I collaborated with the participating SEs as a ‘coach’ to encourage them to consider, and implement, new approaches related to role performance and the development of professional identity in the context of changing buyer expectations.

1.1 Sales Engineering: An Under-Researched Role in Complex B2B Selling

'Sales engineering' and the term 'sales engineer' simultaneously describe functions, processes, and roles that exist in B2B selling (Röhr, 2016). However, as an under-researched area, the functions, titles, and roles of the SE are not universally understood or consistently applied (Carberry & Baker, 2018). The title of 'sales engineer' does not entirely describe the role's performance (Bumblauskas et al., 2017). After all, SEs do not *engineer* sales *transactions*. Instead, SEs employ their engineering skills to support the decision-making process that buyers undertake when considering whether to purchase a *solution* for the benefit of their business (Darr, 2002). The SE role is also referred to by other names in B2B organisations such as pre-sales engineer, pre-sales consultant, solutions engineer, solutions architect, systems engineer, customer engineer, technical account manager, systems consultant, application engineer, or field application engineer (Care & Bohlig, 2014). However, more important than a title on an organisational chart is how SEs perform the role and how SEs support value creation for both buying and selling organisations (Niu & Wang, 2011).

Globally, it is estimated there are more than 4 million expert technical sellers, like SEs, employed by B2B sales organisations (Bureau of Labor Statistics, U.S. Department of Labor, 2020; Torpey, 2011). Sales engineers directly facilitate the purchase of more than $10 trillion of goods and services (Bumblauskas et al., 2017; Görne, 2014) out of the more than $50 trillion in B2B transactions that occur each year (International Monetary Fund, 2020; Lilien, 2016). However, as of this writing, the literature of the last several decades does not have much to say about the function of sales engineering or the role of the sales engineer. This gap in the literature has been noted by other researchers of B2B sales and marketing (e.g. Reunanen et al., 2018; Ulaga & Kohli, 2018) as an opportunity for future studies.

Sales engineers occupy a unique place in B2B sales organisations (Reunanen et al., 2018). Sales engineers are expected to simultaneously demonstrate subject matter expertise in a chosen technical discipline, rooted in various 'hard' skills or sciences pertaining to engineering, while also exhibiting 'soft' skills related to business, interpersonal communication, and customer influence (Kopecka et al., 2012). This study aims to explore, act upon, and conceptualise the ways that SEs experience their identity work and practice as they perform these dual professional roles of technical expert and customer advisor.

For managers and stakeholders who rely on sales engineering, the ability to effectively develop SEs in their roles and professional identities in a way that supports the growing interdependence between technical and business skills in B2B commercial relationships represents a crucial management problem. If managers do not fully understand sales engineering, they will find it difficult to consistently and productively find, develop, and retain high-performing SEs (Reunanen et al., 2018).

1.2 The 'Technicisation' of B2B Sales Requires a New Type of Seller

Business-to-business buyer–supplier relationships have changed significantly over the last two decades (e.g. Kaski et al., 2017; Ryals & Rackham, 2015). Buyers now expect suppliers to possess far more in-depth, hands-on sets of knowledge and skills related to solutions that are deployed to support a customer's business outcomes (Darr, 2006). Buyers also expect suppliers to help them create value and positive economic outcomes (Vargo & Lusch, 2004b). Gradually, these higher expectations have revealed a management problem in B2B supplier organisations—specifically, generalist B2B salespeople often lack the knowledge, skills, behaviours, or incentives needed to succeed in increasingly service-dominant and 'technicised' B2B selling environments (Alamäki & Kaski, 2015). In response, B2B managers have deployed more technically minded individuals to perform boundary-spanning roles with buyers (Kopecka et al., 2012). Furthermore, managers have increasingly begun to rely on roles such as solution architects, product specialists, and SEs to meet the needs of both buyer and supplier organisations. Based on my direct experience, managers find it challenging to recruit, hire, develop, and retain SEs due to the uniqueness of the role and professional identity. This difficulty is compounded by the requirement that SEs synthesise and synchronise their knowledge, skills, and behaviours between two different 'worlds'—engineering and sales.

Since sales engineering emerged in the early 20th century (Thomas, 1929), a certain amount of role and identity conflict has always existed between the characteristics of 'engineer' and 'seller' in the performance of the role (Bumblauskas et al., 2017). Engineering and sales represent the two main categories of competencies that SEs work to synthesise in their role performance (Darr, 2006). As a result, a kind of collision tends to occur between these two 'worlds' of engineering and sales as SEs construct their professional identities and seek to expertly perform their roles (Röhr, 2016).

1.3 My 'Insider' Position Relative to the Study

From the early 1990s through the year 2000, I was a practising SE employed by a multinational technology company. In 1999, I was given the responsibility of managing that company's sales-engineering organisation in the United States. From 2004 until 2010, I served in various executive capacities, with responsibility for sales-engineering organisations, in North America, Japan, China, and the Asia-Pacific region.

In 2010, I established a business consulting practice and, since then, I have often had the chance to work with organisations in the roles of mentor, coach, or trainer. As a consultant, I have worked with clients to support their overall B2B sales objectives and, at times, the aims of the sales-engineering function specifically. In these engagements, I am frequently exposed to challenges, conflicts, and development opportunities faced by individual SEs, SE managers, leaders of sales-engineering teams, and executives in charge of B2B sales organisations.

Many of the changes and challenges examined as a part of this study are grounded in the literature. However, this thesis supports my candidature for a professional doctorate and, as such, the research is also informed by real-world management problems that are drawn from my own experience, expertise, and work with clients (e.g. Figures 1.1 and 1.2). As businesses of all types have accelerated a move towards the digitalisation of their business models as a part of what is known as the 'Fourth Industrial Revolution' (Darr, 2015; Skålén et al., 2015), I have seen a steady increase in client requests for assistance in improving the effectiveness of sales engineering in organisations (see Figure 1.1). Clients have sought help in overcoming challenges related to shifts in buyer expectations and an increasing emphasis by buyers on value creation. Clients have shown keen interest in improving their deployment of SEs to meet the evolving requirements of business buyers (see Figure 1.2).

Re: [redacted] Jim Wagstaff [redacted]

[redacted]

[redacted]

Monday, 6 May 2019 at 8:41 PM

To: Jim Wagstaff; [redacted]

Cc: [redacted]

Solution Advisor _SE...
348.2 KB

Download All • Preview All

Hi Jim [redacted]

Thank you for your time today. Attached is the slide we reviewed on our call. This slide contains the list of items that our 3 presales leaders (AMS, EMEA, & APJ) put together to identify areas of focus to help determine what the SE in our new business model should look like.

Thanks,

[redacted]

[redacted]

Senior Manager
Worldwide Presales Productivity & Effectiveness

[redacted]

Figure 1.1: Client Email Regarding SE Role Evolution Discussions and Work

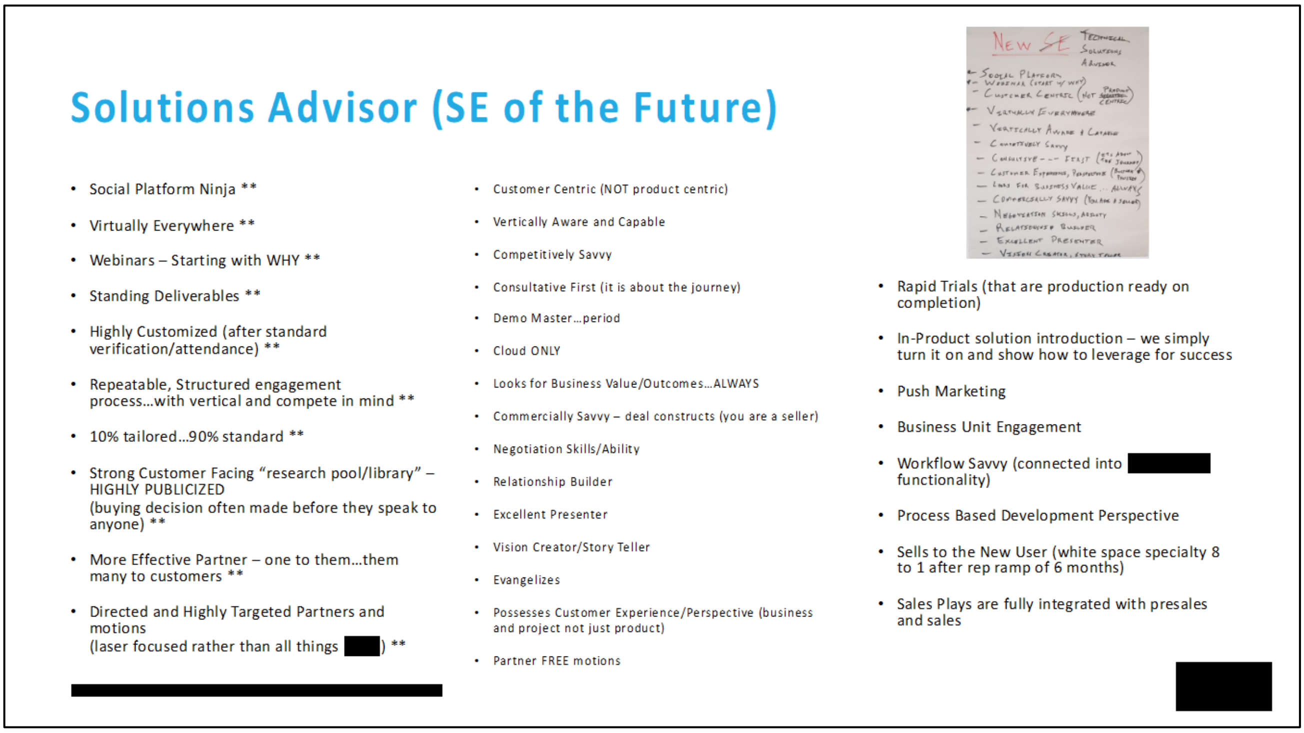

Figure 1.2: Client Ideation Slide Related to the 'SE of the Future'

My direct experiences and expertise in the thesis topic have acted to influence certain assumptions. Those assumptions have led me to closely examine the practice of sales engineering and to frame this study in a particular way (see Figure 1.3). As a result of my career experiences, exposure to the management challenges related to the thesis topic, and position as a relative industry 'insider' vis-à-vis the B2B selling function, I propose that the subject of this research represents an opportunity to approach a significant management problem. My work-life experience and 'insider' position related to the management problem have helped to inform the research orientation and actions adopted in this study.

1.4 Addressing a Vital but Under-Researched Subject in New Ways

With the notable exception of Darr's (2000, 2002, 2006) ethnographic studies of sales engineers in boutique engineering firms, little recent research has been conducted about the practice of sales engineering or to conceptualising the role and professional identity of the individual sales engineer in B2B selling. Therefore, this study is unique in its focussed attention on sales engineering. This study's research approach of gathering and interpreting data through the application of hermeneutic phenomenology, while subsequently engaging with participants in action research, explores new territory in support of filling certain gaps in the literature. Specifically, this research aims to contribute to practice and the literature related to areas that form the conceptual framework for the study (as outlined in Figure 1.3):

- The function, professional identity, and role of the sales engineer (Röhr, 2016).
- To explore what it is like to operate in increasingly technicised B2B selling (Darr, 2006; Lusch & Vargo, 2019).
- The focus on an individual role (i.e. the SE) in B2B sales (Cortez & Johnston, 2017).
- A practical example of the application of S-D logic (Vargo & Lusch, 2017).
- The evolution of buyer expectations and the relation to value co-creation (Ryals & Rackham, 2015).

The significance of this research centres on the study's key outcome: a conceptual framework of sales engineering across the knowledge, skills, behaviours, and outcomes that are necessary for an SE to develop an effective professional identity and to perform the role well (e.g. Figure 1.5). Despite managers' deep concerns about what they describe as their inability to find, develop, and retain enough skilled SEs, and the trillions of dollars of commerce that sales engineers directly influence (Bumblauskas et al., 2017), the literature has long lacked a coherent framework to conceptualise the role, identity, and functions of the practice of sales engineering (Reunanen et al., 2018). It has also been my experience over the last few decades, that even though managers recognise sales engineering as a critical function in B2B selling, the understanding and deployment of the role in organisations is often inconsistent.

Finally, the literature and research related to professional identity construction and practise has primarily focussed on roles such as managers, leaders, teachers, nurses, lawyers, and doctors (e.g. Chreim et al., 2007; Hotho, 2008). Meanwhile, B2B sales, and sales engineering in particular, remain largely untouched by identity researchers (Cortez & Johnston, 2017). The research conducted in support of this thesis explores, illuminates, and conceptualises the lived experiences of practising SEs related to their construction of a professional sense of self, the synthesis of engineering and sales identities, and how practising SEs enact the knowledge, skills, and behaviours necessary to expertly perform their role. As such, this study also contributes unique and novel research to the study of a professional identity in the domain of B2B sales and marketing.

1.5 Framing the Study: Understanding the Problem, Engaging the Literature

The work associated with this thesis has been conducted over a number of years, starting with the initial planning stage and continuing through to the development of the research approaches, examination and interpretation of participant experiences, involvement with the research participants in a cycle of action research, the thesis write-up, personal reflection, and the finalisation of this document. However, the genesis of the thesis began with a management problem drawn from an observation within my professional practice: B2B sales has become increasingly technicised and therefore more reliant upon technical experts like SEs who engage and guide buyers toward optimal solutions. Yet these expert selling roles remain difficult to staff due to the unique synthesis of professional identities and skills required.

Consideration of this management problem moved me to examine other questions as to *why* the problem might be occurring. From a practitioner perspective, it was unclear whether the underlying problem was related solely to the changing nature of B2B selling (Ryals & Rackham, 2015) or whether the problem was grounded in specific knowledge or skill gaps (e.g. Kaski et al., 2017) and, therefore, might pertain to educational or professional development (St. Clair et al., 2018). There was also the question as to why some technically minded engineers successfully transition to customer-facing roles as SEs while other engineers struggle to transition or burn out completely (Darr, 2006). Perhaps, then, the problem was influenced by something else entirely. It was through these and other *why* and *what* questions, along with a comprehensive review of the literature pertaining to B2B selling, the metatheory of S-D logic, and the study of identity (particularly, professional identity), that a conceptual framework of the study (see Figure 1.3), approaches to the research, and paths toward additional action research all emerged.

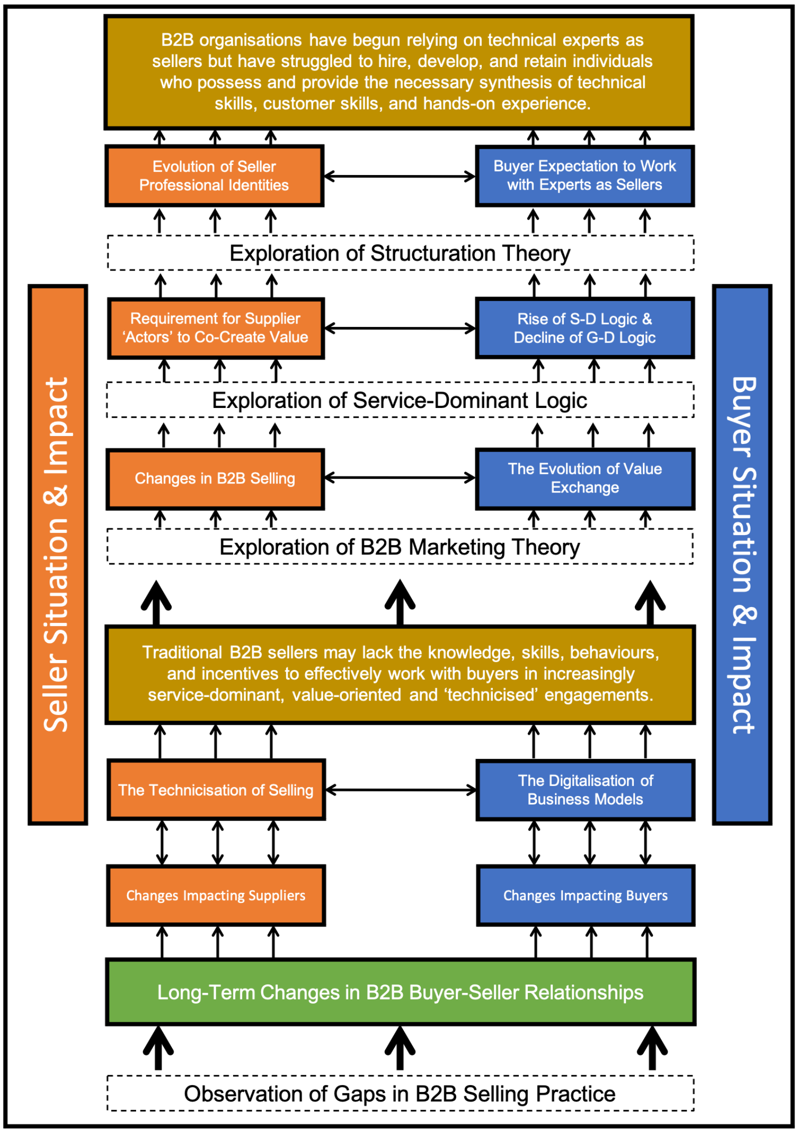

Figure 1.3: A Conceptualisation of the Study

Through the process of engaging and examining the literature related to changes in B2B selling, the technicisation of selling, the evolution of value exchange, the rise of service-dominant logic, and challenges of professional identity development, the management problem appeared to be influenced by multiple and (in some cases) interconnected phenomena or domains of research. This study considers the lived experiences of individual sales engineers through the lens of two theoretical frameworks: S-D logic (Vargo & Lusch, 2006) and structuration theory (Giddens, 1984). Both S-D logic and structuration theory comprise important, and interrelated, theoretical foundations for this study. These theories are important to this study because they may be used to interpret both the changes in B2B selling along with the dualistic nature of identities needed in evolved approaches to B2B selling (Vargo et al., 2015). Furthermore, S-D logic and structuration theory have been utilised by other researchers seeking to study simultaneous shifts by organisations towards greater value co-creation in parallel with necessary establishment or adaptation in professional identities (e.g. Chandler & Vargo, 2011; Kleinaltenkamp, 2019). In other studies, the combination of S-D logic and structuration theory in the literature has been employed to allow researchers to 'zoom in' on the micro phenomena related to the experiences of individuals in their identity work while also 'zooming out' to understand the meso (e.g. organisations and structures) or macro (e.g. markets, sectors, or economies) implications of these facets of buyer-seller dynamics (McColl-Kennedy & Cheung, 2019).

As a metatheoretical framework, service-dominant logic functions to frame the long-term trend of changes to B2B buyer–supplier relationships (e.g. Vargo & Lusch, 2017). As buyers have demanded the sort of value co-creation theorised in S-D logic, gradual movement away from goods-dominant (G-D) logic and a move towards solutions linked to economic outcomes has influenced the practice of sales engineering (Darr, 2002, 2006, 2015). In my experience, these changes have subsequently affected the construction and performance of SEs' identities and roles in B2B selling practices.

Research approaches informed by hermeneutic phenomenology and action research have guided my exploration, interpretation, and conceptualisation of participants' lived experiences. In this study, the research participants and I jointly explored and collaborated on the study's early qualitative findings related to an emergent conceptual framework of the various ways in which SEs construct and perform their professional identities and roles. Applying aspects of this conceptual framework within a cycle of action research generated additional insights, action, and qualitative data. Furthermore, the insights and considerations developed during the action research cycle provided other data and understanding to support the work of answering the research questions and addressing the associated management problem. These combined methodological approaches were useful in interpreting the research participants' first-person experiences, then working to affect a change by taking action to modify those experiences, as the participants sought to synthesise the dichotomous skillsets of engineering and selling in their real-world professional identities and practices.

1.6 Conceptualising SE Role Performance and Identity Development

Over the last two decades, managers in B2B settings have seen their teams begin to operate in increasingly technicised selling environments (Darr, 2000, 2002, 2006) that now require organisations to hire, develop, deploy, and retain technical or expert sellers (Rantala et al., 2020). However, in my direct experience, managers find it difficult to find, recruit, develop, and retain expert sellers, like SEs, due to the role's relative uniqueness. Sales engineering is unique due, primarily, to the two distinct, divergent, and dissimilar skillsets expected of individuals in this role. An SE is expected to demonstrate high levels of technical or engineering knowledge, skill, and hands-on experience coupled with expert customer-facing skills in categories such as business acumen, communication, and consulting (Care & Bohlig, 2014; Darr, 2006). Educationally and professionally, these two skillsets have long been seen as two different 'worlds', with one grounded in technical disciplines and the other rooted in social sciences (Bumblauskas et al., 2017).

This study undertakes the following actions, outcomes, and results:

- Exploration and interpretation of practising SEs' lived experiences regarding how they establish, develop, practise, adapt, navigate, and synthesise their professional roles and identities.
- Further engagement with participants using action research to generate additional data, insights, and learning through the application of training and coaching interventions.
- A framework reflecting the professional identity and conceptualisation of the SE role performance to support actions applied to SE development.

This study contributes to theory and practice by addressing literature gaps related to the following areas:

- The lifecycle that SEs traverse as they establish, develop, practise, adapt, navigate, and synthesise their roles and identities in pursuit becoming expert technical sellers in their professional identities and roles (see Figure 1.4).
- A practical conceptualisation of the knowledge, skills, behaviours, and outcomes developed and practised by SEs in their professional roles and identities (see Figure 1.5).
- Action research and action learning approaches to provide space for reflection, action, and collaboration with the research participants in each of these areas.

Three research questions (RQ1, RQ2, and RQ3) serve to guide this study of the lived experiences of SEs as they seek to form, adapt, and integrate their professional roles and identities in B2B organisations and for the benefit of buyers.

RQ1: What are the lived experiences of expert technical sellers, like SEs, as they establish, develop, and practise, their roles and identities in B2B selling?

RQ2: How does the increasingly technicised and value-oriented B2B buyer–seller environment influence the role performance, professional identity development, and professional practice of expert technical sellers such as SEs?

RQ3: How might SE professional identity development, role performance, and practice be conceptualised and framed to support a more consistent and professionalised approach to sales engineering?

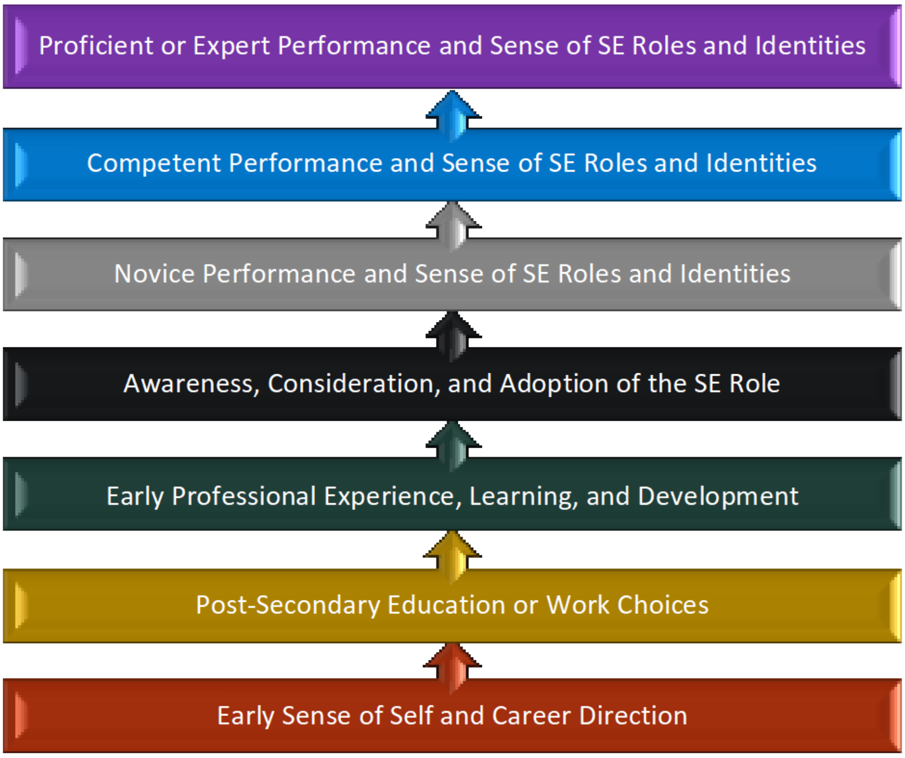

Figure 1.4: Overview of the SE Role Performance and Identity Work Lifecycle

Figure 1.5: High-Level Conceptualisation of the SE Role and Professional Identity

1.7 Conclusion

This study's research outcomes illustrate that the roles and identities of SEs, like all forms of personal and professional identity, emerge and adapt as a result of various external influences (Ashforth, 2001). Specifically, SE roles and professional identities form at the nexus of social interactions and behaviours between business buyers and sellers (e.g. Stryker, 1980). It is at these intersecting boundaries, uniquely spanned by the SE (Dean et al., 2017), that this study examines and interprets the SE role and identity (e.g. Giddens, 1984). Exploration, examination, interpretation, and actions taken in this study focus on illuminating phenomena associated with SE role performance and professional identity construction.

The reader is asked to consider the lived experiences of a group of expert SEs as recounted in their own words and through the lens of their own work. More than simply a description of these lived experiences, this research seeks to engage with the management problem through a cycle of action learning in which the participants and I worked together to create new, actionable knowledge to advance both research and practice.

This study seeks to fill this gap in the literature by providing one of the few scholarly inquiries into the roles and identities of SEs. Additionally, this research aims to provide practitioners with a coherent conceptualisation of sales engineering along with approaches that managers might use to address challenges related to the application of sales engineering in increasingly technicised B2B selling situations.

Chapter 2 introduces facets of the literature that are most relevant to the management problem addressed in this study—namely, B2B selling, S-D logic, and identity research. The literature examined in Chapter 2 has allowed me to be in a position to better understand the participants' lived experiences. A portion of the literature review in Chapter 2 highlights the level to which sales engineering remains underrepresented in scholarly research. Chapter 3 provides an overview of the ontology, epistemology, and axiology that informs and guides my research. Chapter 3 also provides the reader with the logic and decision-making process behind the choice of hermeneutic phenomenology and action research as research methods deployed in support of this study. Chapter 4 presents the qualitative data gathered in this study, along with an introduction to the topical and thematic analysis of that data, before a deeper discussion and interpretation of the research findings in Chapter 5. Finally, Chapter 6, contains a discussion of the implications of the research. This includes reflections on the answers to the study's research questions, an outline of the contributions to practice and theory, opportunities for future research, my personal reflections as a researcher, and an overall conclusion to the thesis.

Chapter 2: Literature Review

2.0 Introduction – Exploring Relevant Domains of the Literature

Based on the way that this study has been conceptualised (see Figure 1.3), this thesis draws on research from a few relevant domains of the literature to establish a theoretical foundation for the study: 1) business-to-business (B2B) selling (including literature related to the role and practice of sales engineering), 2) service-dominant (S-D) logic, and 3) the study of identity (see Figure 2.1). This chapter seeks to illuminate various ‘through-lines’ and influences between these domains in order to explore how these areas of study inform this thesis and its associated research questions. This chapter also outlines specific gaps in the literature and proposes how this study aims to contribute to scholarly research.

Buyer expectations concerning the approaches that solution providers undertake in B2B selling have transformed over the last few decades (Vargo & Lusch, 2004a). Business buyers now expect suppliers to go beyond merely fulfilling orders for goods and services. Instead, buyers want suppliers to demonstrate capabilities akin to solution design practices in the pursuit of economic value (Ryals & Rackham, 2015). For buyers, the interest in B2B commercial agreements has moved away from attempts at creating value through an exchange of capital for goods. Instead, interest in value creation centres on the establishment of ‘value-in-use’ through the integration of critical resources into the business (Vargo & Lusch, 2004b). Furthermore, buyers now stress that B2B suppliers must demonstrate greater industry insight, technical expertise, and in-depth knowledge regarding their unique customer business requirements (Kaski et al., 2017).

Today, B2B selling is evolving towards approaches informed by concepts such as technicisation (Darr, 2002, 2006, 2015; Kopecka et al., 2012) and S-D logic (Marcos-Cuevas, 2018; Vargo & Lusch, 2014) that are discussed later in this literature review. In these types of selling scenarios, the sales process itself is sufficiently complex that it exceeds the capabilities and bandwidth of generalist sellers and requires added specialisation (Zoltners et al., 2012). Furthermore, significant advances in sales processes require B2B supplier organisations to determine the identity and location of (increasingly sophisticated) buyers. Sellers must now operate in new and different ways and define what value creation means for these buyers (Cron & Cravens, 2011). For the supplier's organisation, transformed strategies of this sort must include an inventory of the roles, knowledge, skills, and expertise required by generalist sellers (e.g. account managers) as well as sales specialists (e.g. sales engineers [SEs]; Zoltners et al., 2008).

To meet shifting requirements in the context of B2B value exchanges, supplier organisations seek to deploy representatives who can adapt and evolve their roles and professional identities to better suit new buyer–seller dynamics (St. Clair et al., 2018; Vargo & Lusch, 2017). All 'actors' (e.g. buyers and sellers) in B2B value exchanges must begin to view their roles as equal and interdependent. Buyers and sellers must act together as integrators of resources, employed in pursuit of value co-creation to the benefit of all parties (Vargo & Lusch, 2016). Increasingly, B2B sales organisations (particularly those providing high-technology solutions) rely on the roles of specialists like SEs to satisfy multifaceted requirements centred on value co-creation (Darr, 2006; Görne, 2014; Kopecka et al., 2012). In this context, leaders of numerous B2B sales organisations place the establishment, development, and performance of the roles of specialist or expert representatives, like SEs, on their list of top management challenges (Röhr, 2016).

In the context of contemporary B2B selling, S-D logic represents a useful and integrative lens for the research of marketing and sales. Narrow views regarding the utility of 'goods' as the primary driver of value creation hinder a full understanding of the phenomenology of how value creation occurs (Vargo & Morgan, 2019). 'Service' is seen as an input to the selling process through the demonstration of specialisation, experience, and expertise by applying competencies, skills, knowledge, and procedures to deliver value co-creation for the benefit of another entity (Vargo & Lusch, 2004a). Following this, value may accrue for all parties participating in the exchange, including the supplier entity itself (p.2). By comparison, B2B commercial relationships based on goods-dominant (G-D) logic (i.e. a view that value exists inherently in a commodity) tend to be zero-sum games in which one party in the transaction 'wins' and the other party 'loses' (Ekman & Röndell, 2019).

An SE operates in a boundary-spanning role that requires the utilisation of engineering and selling skills simultaneously (Dean et al., 2017). Accordingly, B2B sales organisations seek to hire, develop, and retain SEs who are 'ambidextrous' in their roles and professional identities when engaging in design, service, quality, value, and economic outcomes with their customers (Evans et al., 2012). Sales engineers who can bridge the two different ‘worlds’ of engineering and sales in their roles and identities position themselves to meet buyer value co-creation expectations (Kopecka et al., 2012). Furthermore, SEs represent a vital function when addressing increasingly complex buyer expectations as the B2B buying-selling process shifts towards technicised approaches (Darr, 2002; Kopecka et al., 2012). By understanding, informing, and encouraging professional ‘identity work’ in specialist roles such as the SE, managers can position their organisations to more reliably meet changing buyer demands, and thereby improve outcomes for themselves and their customers (Johnston & Marshall, 2009).

2.1 Mapping the Literature Review

By contemplating the changing B2B sales environment and the roles that specialists like SEs play, specific guiding questions arose concerning how best to review the literature on topics such as B2B selling, sales engineering, S-D logic, and professional identity development:

- What changes are occurring in complex B2B commercial relationships?
- How is S-D logic affecting expectations in B2B engagements?
- What is identity (especially professional identity), and how does it develop?
- What are the implications for specialist roles and identities in B2B selling contexts?
- How do expert sellers like SEs establish, practise, and adapt their identities?

Using these questions as starting points, this literature review centres on analyses of three research domains along with an evaluation of the ways in which they intersect or overlap in research and practice (See Figures 1.3 & 2.1):

1. Contemporary theoretical views and conceptual frameworks of B2B sales (including the placement and research of sales engineering in the B2B sales literature).
2. S-D logic as a metatheoretical framework influencing B2B sales.
3. Relevant theories concerning individual, group, and professional identities.

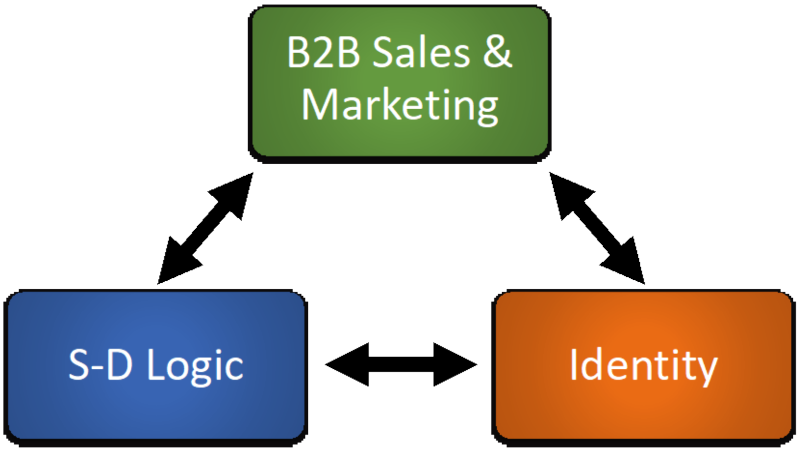

Figure 2.1: Literature Review Framework

Business-to-business sales constructs and themes such as team selling, the technicisation of selling, the evolution of value exchange, changing buyer expectations, and S-D logic, along with core theories and conceptualisations of identity, such as identity theory, social identity theory, and structuration theory, inform this literature review from a theoretical perspective. By focussing on these themes and theories, this literature review seeks to explore and evaluate the state of research along with the relationships between 1) changing requirements in B2B selling and associated implications, especially as they influence or involve sales engineering; 2) the SE's role and impact on professional identity development in the context of B2B selling; 3) the rise of service-dominant logic and the associated decline of goods-dominant logic; and 4) the existing body of knowledge concerning identity creation and adaptation, especially professional identity.

2.2 Changes in B2B Selling

On the surface, the practice of B2B selling appears simple. Specifically, a supplier attempts to meet specific buyer needs by providing and deploying systems and services in the form of 'solutions' intended to solve business 'problems' (Ryals & Rackham, 2015). However, as solutions sold in B2B contexts progressively become more multifaceted and intricate (Virtanen et al., 2014), understanding the ongoing shift from transactional or relational exchanges towards S-D exchanges is crucial (Nariswari, 2019). Service-centric solutions require combinations of selling skills and technical expertise that go beyond stereotypical relationship-oriented approaches commonly assumed between buyers and sellers (Kaski et al., 2017). In this category of specialised selling, much of the 'hard work' is performed by suppliers as part of the up-front sales process well in advance of any payments for a solution (Ryals & Rackham, 2015, p.249).

The literature on B2B selling links the increasing complexity of the sale of solutions to changing customer business circumstances (Lacoste, 2018; Marcos-Cuevas, 2018; Zalloco et al., 2009). Relationship selling that, for decades, has been the hallmark (and stereotype) of B2B selling is now considered ripe for disruption (Arli et al., 2018). The seller's role in B2B contexts has shifted from that of 'intermediary' acting to merely supply goods and services specified by buyers towards that of customer 'value-creation engineer' (Weissenberger-Eibl & Kugler, 2014). As such, to deliver superior value in increasingly mutable markets, organisations must adapt their selling approaches, along with the roles their sellers enact, by adopting strategies focussed on delivering buyer outcomes (Sheth & Sharma, 2008).

Managers have long sought to understand the tenuous causal relationship between the quality of 'inputs' within a complex sales process and the likelihood of successful commercial 'outputs' (Piercy & Lane, 2012). These seller inputs include skilled customer engagement, problem-solving, technical know-how (Aarikka-Stenroos & Jaakkola, 2012; Matthyssens & Vandenbempt, 2008), consultative approaches to solution design (Kaski et al., 2017; Piercy & Lane, 2012), and in-depth knowledge of a customer's business or industry (Vargo & Lusch, 2017). The depth and breadth of knowledge required to credibly recommend appropriate solutions for customers are more extensive than ever (Evans et al., 2012). Paradoxically, B2B buyers are now also increasingly sceptical regarding the trustworthiness and solution-selling capabilities of traditional account managers or relationship-oriented salespeople (Arli et al., 2018).

Researchers have noted an increased requirement for B2B sales professionals who possess levels of knowledge, competence, skills, and experience that have more commonly been the domain of design engineers and solution architects (Marcos-Cuevas et al., 2016). These requirements emerge when the objectives of buyers and B2B sellers converge towards engagements grounded in 'value co-creation' (p.106). Today, research, development, design, and engineering skills are increasingly employed in B2B sales engagements to improve the likelihood of value creation for both buyers and sellers (Luotola et al., 2017).

Value co-creation describes a transformative process requiring long-term, interactive engagements with buyers to customise, adapt, and integrate resources into customer environments to effectively form a value 'network' between buyer and supplier (Storbacka et al., 2016). Effectuating this value network requires both resource providers (suppliers) and users of the resources (buyers) to be involved in a simultaneous interchange of knowledge, skills, and experiences to solve specific problems at hand (Cantù et al., 2012).

Changes in buyer expectations have made selling more competitive, service-oriented, and technical over the last few decades (Storbacka et al., 2009). Accelerated customer product lifecycles, increased product commoditisation, and evolving business models are now far more likely to require the application of technologies oriented towards delivering business outcomes (Corsaro, 2019).

In a case study involving SKF, one of the world's largest makers of industrial bearings, Piercy and Lane (2012) illustrated how a selling 'pivot' may occur in companies that market increasingly commoditised product categories. The sector that includes the sale of industrial bearings is one that has been significantly impacted by commoditisation. As such, SKF has transformed the nature of their engagement with customers in an attempt to mitigate the commoditisation of their products (p.26). The company relies on more than 5,000 SEs to develop close relationships with customers regarding *how* those customers *use* SKF's products to solve *problems* through the application of *solutions* that deliver positive customer business outcomes (emphasis my own; Marsh, 2007). For SKF and the company's customers, products (i.e. industrial bearings) have become merely an instrument in the value-creation process rather than a source of inherent value.

Business-to-business sales leaders operate within commercial environments that increasingly value enacting diverse seller capabilities and expertise across a variety of roles when engaging B2B buyers (Kaski et al., 2018; Töytäri & Rajala, 2015). Value co-creation requires a specialised approach towards B2B buyer engagements, with the most effective strategies characterised as methodical, systematic, organised, consultative, and outcome oriented (Ulaga & Loveland, 2014). Buyer demands that increasingly centre on business value creation have more significantly accelerated the evolution of sales approaches compared to any equivalent change management strategies from within B2B supplier organisations (Cravens, 2012).

Managers have expressed concerns regarding difficulties in finding or training salespeople (e.g. account managers or territory managers) possessing adequate B2B sales experience combined with a sufficient depth of understanding of customer business environments (Alamäki & Kaski, 2015). Furthermore, managers face the added challenge of finding salespeople who can meet buyer expectations concerning the demonstration of a deep technical understanding of relevant solutions (Terho et al., 2017). As the following section illustrates, due to these challenges, B2B selling is now more reliant on teams and more dependent on specific areas of team member specialities to fill these gaps in experience and expertise (Borg & Young, 2014).

2.2.1 Expansion of Team Selling in B2B Commerce

Team selling has become an essential dynamic as B2B sales organisations have evolved over the years (Piercy, 2010). However, despite not being a new concept in B2B practices (Moon & Armstrong, 1994), team selling, along with individual team roles involving subject matter experts (e.g. SEs and product specialists), remains under-researched (Evans et al., 2012; Lee, 2012). Team selling practices have now become the norm when engaging buyers concerning complex business needs and solution requirements (Jones et al., 2005; Piercy, 2010; Pullins et al., 2017).

The idea that a single generalist salesperson might successfully engage a buyer one-to-one through all of the necessary steps in a complex B2B sales process (see Figure 2.2) is considered outdated (Borg & Young, 2014). Conceptual models of B2B selling that predominated through the late 1990s portrayed a selling process driven by a relationship-oriented, generalist salesperson (p.544). Now, however, complex B2B selling processes align various members of a sales team with members of a buying team to jointly solve complex problems in the pursuit of defined areas of long-term customer value and ongoing engagement (see Figure 2.3; Lah & Wood, 2016; Luotola et al., 2017).

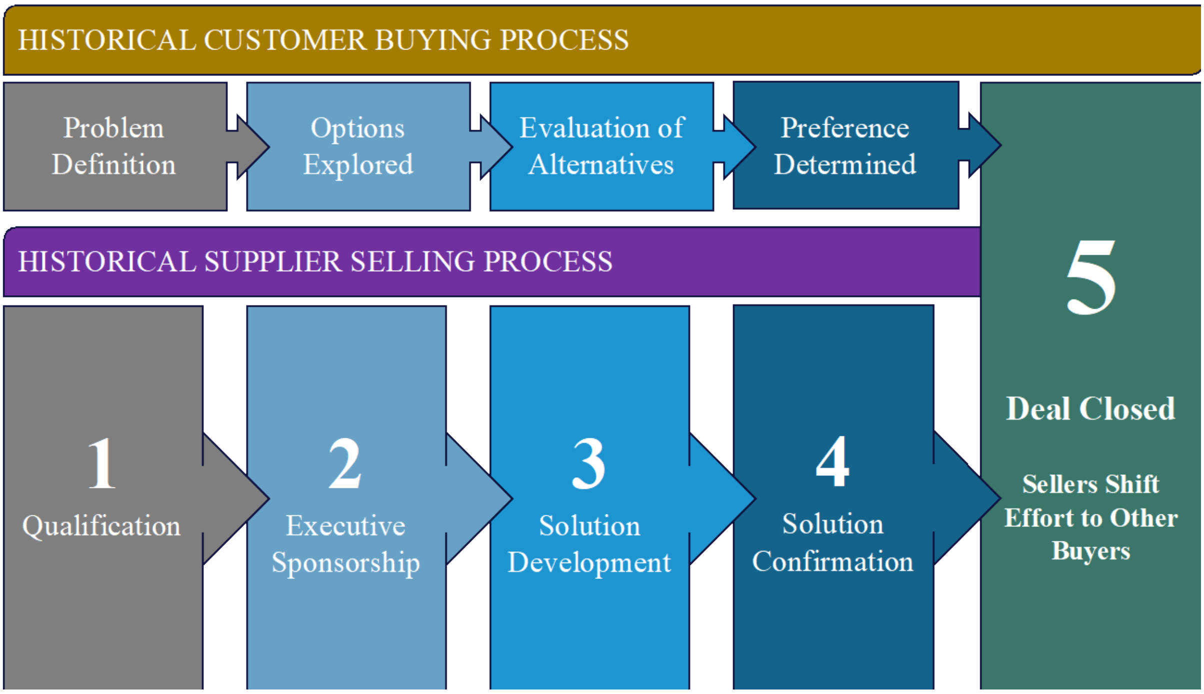

Figure 2.2: Historical B2B Buyer-Supplier Engagement (e.g. Borg & Young, 2014)

Generalist members of a B2B sales team (e.g. account managers) struggle to demonstrate appropriately high levels of knowledge, skill, and experience related to applications of solutions meant to deliver desired customer business outcomes (Darr & Talmud, 2003; Ulaga & Kohli, 2018). As such, in B2B selling situations requiring the application of sales approaches informed by concepts such as S-D logic, generalist sellers are likely to involve other members of their selling team (Jones et al., 2005; Moon & Armstrong, 1994; Pullins et al., 2017). Sales processes requiring a degree of subject matter expertise and technicisation will also likely trigger the involvement of a specialist or expert seller such as an SE (Jones et al., 2005). To this end, a team-selling approach allows a specialist or expert seller to handle the ‘details’ of a solution while the generalist tackles the commercial aspects of buyer agreements (p.453).

Much of the current sales literature portrays unified sets of expectations across all types of seller roles and identities (Flaherty, 2012). However, without individual clarity regarding the roles that each sales team member should play and how they should adapt within those roles, sellers may quickly become overwhelmed by the responsibilities, conflicting requests, or ambiguities that they face (Brown et al., 2005). Traditional B2B sales approaches are not suited for the type of complex, consultative, technology-based, and outcome-oriented requirements in which value is created jointly between a buyer and seller within the process of implementing a solution (see Figure 2.3; Piercy & Lane, 2012). Furthermore, these types of role conflicts and ambiguities have been revealed to disproportionately affect the performance of sellers operating in a technical or specialist role (e.g. SEs; Avlonitis & Panagopoulos, 2006).

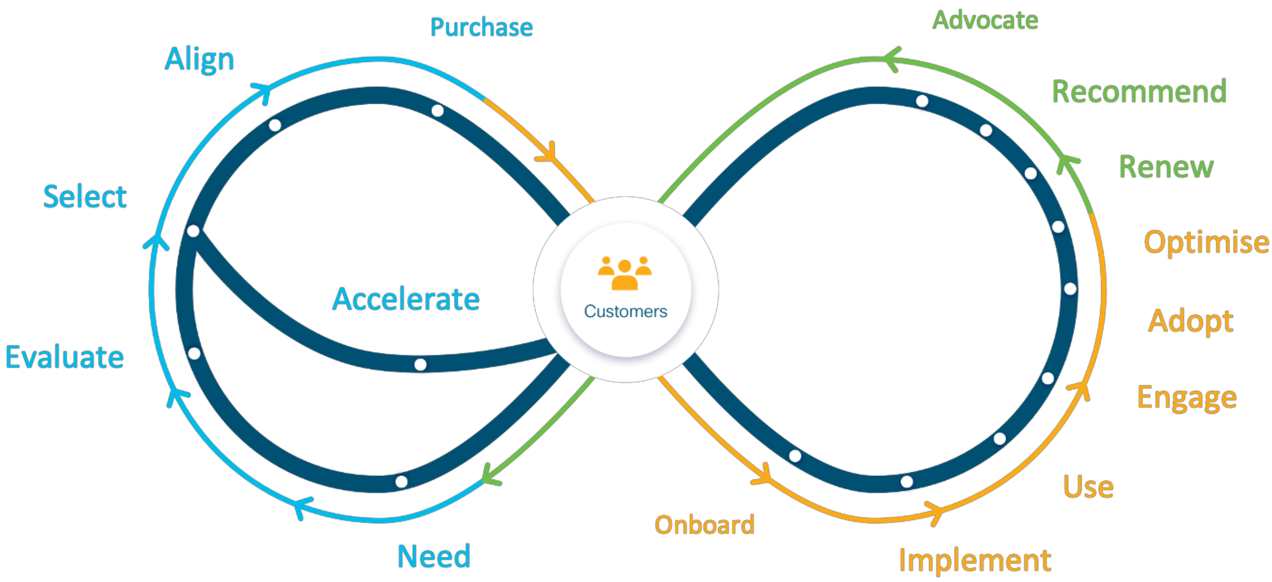

Figure 2.3: Evolved B2B Buying-Selling Process (e.g. Lah & Wood, 2016)

To co-create value in a way that matches customer expectations, members of a B2B selling team must engage buyers in areas that go beyond traditional buyer–seller relationships, which previously centred on creating value through the exchange of goods (i.e. transactional sales and marketing; Lee, 2012). These new areas of engagement often include diverse customer business functions, such as operations, supply-chain management, finance, information technology, human resources, or product development (Marcos-Cuevas et al., 2016). Therefore, each member of the selling team needs to bring a unique set of knowledge, skills, and actions to the value co-creation process. Each team member may also possess individual points of contact within the buyer organisation that fall outside what has traditionally, in more transactional relationship-driven selling, been viewed as the buyer 'coverage map' by a generalist seller (Waseem et al., 2018).

The more complex or technical a supplier's products or solutions are, the more likely it is that a B2B selling team, comprising multidisciplinary technical specialists, must be involved in the sales process with buyers (Storbacka et al., 2011). These multidisciplinary specialists engage in the co-development and design of solutions crafted with a specific customer's needs in mind (Darr, 2000). This type of engagement can create entirely new types of demand in a buying firm through field-driven research and development that can serve both known and (previously) unknown customer needs (Storbacka et al., 2011). Exactly how value creation occurs with buyers (e.g. through the application of S-D logic) in these increasingly technicised processes related to complex B2B solutions, however, remains under-researched (Marcos-Cuevas et al., 2016; Reday et al., 2009; Vargo & Lusch, 2017).

2.2.2 The 'Technicisation' of Selling

Historically, the literature has framed B2B selling as a relationship-oriented practice in which generalist salespeople rely on their commercial expertise to create value based on a favourable cost–benefit ratio, a product's superior features, or a firm's key service capabilities (Alamäki & Kaski, 2015). Since the 1970s and until very recently, B2B sales organisations have relied on these types of selling approaches originating from the 'Four Ps' (i.e. Product, Price, Place, Promotion) with its emphasis on marketing mix and distribution (Grönroos, 1989). Today, B2B sales organisations and their customers in sectors such as industrial marketing, manufacturing, and information technology have elevated the roles of specialists and expert sellers (Pullins et al., 2017). These changes have led to what is called the technicisation of selling (Darr, 2002). The concept of technicisation in selling encapsulates the increasing presence and infusion of technical experts and engineering knowledge into sales engagements along with the growing importance of technical expertise in buyer–seller interactions and networks (p.48). Technicisation thus elevates the significance of the specialist salesperson (pp.53-54), such as the role played by SEs, in the design, demonstration, and delivery of value in the context of a customer's business model (p.62).

Selling informed by technicisation integrates specialised expertise with an ability to answer key buyer questions like 'Why?' and 'So what?' related to the capacity for a solution to deliver 'value-in-use' for a buyer's organisation (Reday et al., 2009, p.839). The B2B sales literature highlights that customers increasingly desire this type of 'technicised' approach to the buyer–seller relationship, as it combines deep expertise with an ability to grasp underlying business requirements and a capability to design useful innovations (Terho et al., 2015) that are feasible to implement (Pullins et al., 2017).

Buyers value technical experts as sellers based on certain factors, such as the relative scarcity of these specialist resources and these experts' potential impact on a business (Wilson & Hunt, 2011). This perceived value also stems from the observation that specialists and experts are often 'seller-doers' due to their direct, hands-on experience and know-how with the solutions that they offer (Kairisto-Mertanen, 2017). Researchers have further noted that the likelihood of value co-creation improves when buyers engage with someone that they view as both a peer (i.e., having similar experiences related to the business situation, problem, and environment) and as an expert who can help both parties find new sources of value (Alamäki & Kaski, 2015).

The nature of competition in B2B markets is rapidly changing from one of supplier differentiation based on the features, functions, and capabilities of products or services to approaches in which a firm is distinguished based on its ability to co-create value (Prahalad & Ramaswamy, 2003). As firms now seek to digitalise all aspects of their business models by adopting newer, more sophisticated technologies, this consequently transforms the nature of competitive advantage (Ostrom et al., 2015). Accordingly, broader or emerging trends, such as those present in the current wave of innovations associated with digitalisation of business models and the 'Fourth Industrial Revolution', influence changes in societies, organisational structures, and the adaptations undertaken by individual actors in both buyer and supplier organisations (Skålén et al., 2015).

Researchers compare the current changes in B2B selling against the fundamental shifts that occurred in manufacturing in the 1980s (e.g. Total Quality Management, Six Sigma, Quality Circles; Ryals & Rackham, 2015) when managers began emphasising quality and the customer experience (Rackham & DeVincentis, 1999). Similarly, significant changes are occurring in the organisational structures and sales methodologies applied in B2B organisations in response to increasingly complex and high-stakes customer requirements (Piercy & Lane, 2012). Correspondingly, it is vital to study and understand the leaders' role and impact in managing these changes, since instituting strategies that misalign with market shifts will negatively influence sales (Flaherty, 2012).

Zoltners et al. (2012) point out that 'a generalist salesforce may be efficient, but it may not be very effective' (p.136). Unique customer requirements and solution complexity create environments in which the skills, knowledge, and expertise required to deliver a positive customer outcome might not be possible through a generalist seller working independently. For example, when IBM faced comparable challenges in the early 2000s, they re-organised 40,000 sellers into a highly specialised, technicised sales force aligned to industries and products (p.139).

In the literature, researchers and practitioners have described the various ways that steps towards technicisation are occurring (Blocker et al., 2012). However, the shifts in buyer practices and an emphasis on value co-creation have exacerbated gaps in B2B sales research related to the technical expert's role in selling (Zalloco et al., 2009). This gap in the literature accordingly highlights a need for a more significant investigation into the role that specialists such as SEs play in approaches to B2B selling oriented towards technicisation and the evolution of value exchange.

2.2.3 The Evolution of Value Exchange

Piercy (2010) and other sales researchers (e.g. Darr, 2006; Jones et al., 2005; Storbacka et al., 2011) identified and classified the early signs of a long-term 'evolution of the strategic sales organisation' (Piercy, 2010, p.350) in B2B commerce. Traditionally, B2B sellers have tended to place too much emphasis on creating 'value-through-exchange' via a product's capabilities and the terms of commercial arrangements in a customer agreement (Eggert et al., 2018). Researchers have recognised that value creation in B2B commercial arrangements has transitioned from one of 'value-through-exchange' to that of 'value-in-use' (Eggert et al., 2018; Ulaga & Kohli, 2018). The latter, value-in-use, describes the creation of economic value for both buyers and sellers through the implementation or application of solutions and services (Kohtamäki & Rajala, 2016).

Buyers now require greater accountability for financial results from their suppliers, along with evidence that sellers possess a detailed level of contextual knowledge of the buyer's business, processes, and strategies (Darr & Talmud, 2003). Such expertise and knowledge are required to effectively 1) make recommendations with a buyer's business outcomes in mind; 2) design the right applications; 3) integrate or implement the right capabilities in the customer's organisation; and 4) solve customer problems (Lacoste, 2018; Piercy, 2010). While Piercy (2010) points to 'salespeople' and 'sales managers' as the traditional focal points for buyers, specialists or expert sellers may be better situated to recommend solutions that create value-in-use (Darr, 2015). In a simplistic example of these different approaches, Chonko and Jones (2005) illustrated how two different salespeople might answer the same (typical) question from a customer: ‘So, what is it you do?’ One seller might say, ‘I sell computer systems to small and medium-sized businesses’, while the other might answer, ‘I provide technology solutions to small and medium-sized businesses that enable employees and owners to be more efficient, productive, and profitable in the work they do to serve their customers’ (p.519). Both answers are technically correct, but the latter reflects a value orientation on the part of the seller.

The contemporary B2B sales literature highlights a shift away from selling as a linear process (see Figure 2.2) towards a more complex, non-linear practice for both buyers and sellers (see Figure 2.3; Vargo & Lusch, 2017). As such, B2B selling has transitioned from a relationship of one buyer to one seller into a non-linear process that involves numerous stakeholders from both buyer and seller firms (Hartmann et al., 2018). Increasingly, this form of B2B selling requires an evolved notion regarding the exchange of value between buyer and seller organisations through the application of S-D logic (Vargo & Lusch, 2017), examined more closely in later sections of this chapter. The current ‘state of the art’ in B2B selling advocates for specialisation where a great deal of complexity exists in products, solutions, or processes (Lee, 2012). Put simply, it has become impractical for sellers to play every role simultaneously in B2B selling of the 21st century.

2.3 The Role of the SE

The term ‘sales engineer’ first appeared in academic research and popular business literature in the first half of the 20th century (e.g. Michaelis, 1940; Prescott, 1921; Thomas, 1929). This early research outlined the SE’s role as being closely associated with the sale of industrial (typically manufacturing) products and services. Buyers benefitted from skilled engineers’ involvement in the selection, development, application, and implementation of these products and services in complex environments (Thomas, 1929; Lester, 1959). Today, SEs in B2B selling are involved in all types of complex solution development and selling, including those offered in the technology, communications, medical, pharmaceutical, chemical, and aviation sectors (Röhr, 2016).

Sales engineering, as an organisational function and job role, operates synchronously as both technical (or expert) sales in B2B commerce and as a link to various technical areas of 'pure' engineering specialisation (Bumblauskas et al., 2017; Reunanen et al., 2018). Accordingly, SEs must develop and adapt their professional identities to operate simultaneously and credibly in these two divergent 'worlds' of sales and engineering (Röhr, 2016). Because of this need to seamlessly balance sales and engineering, the practice of sales engineering is distinct from other selling roles and functions, such as account managers, territory managers, or global account managers (Kopecka et al., 2012).

The competencies demonstrated by SEs to successfully play their roles require a synthesis of various types of knowledge, skills, behaviours, experiences, and personal specialities (Berenbach, 2008; McLagan, 1980; Niu & Wang, 2011). As such, expert SEs actively engage in the ongoing development and improvement of their diverse capabilities (Care & Bohlig, 2014; Darr, 2006; Reunanen et al., 2018), including the following:

- Engineering and technical skills related to areas of essential domain expertise
- Sales, influencing, negotiations, and marketing
- Economic, finance, and business acumen
- One-to-one and small-group communication and influencing skills
- Formal and informal presentation skills

An early definition of sales engineering proposed by Lester (1959) still captures the SE role today: 'Sales engineering is the art of selling equipment and services which require engineering skill in their selection, application, and use'. This definition of the SE role across time and industries has remained stable in the literature and practice (Bumblauskas et al., 2017; Care & Bohlig, 2014; Darr, 2015), although scholarly research on sales engineering has been relatively limited (Darr, 2006; Niu & Wang, 2011; Röhr, 2016).

2.3.1 The Nature and Practice of Sales Engineering

Conservative estimates place the number of expert sellers, such as SEs, working as a part of B2B organisations around the globe at more than 4 million, and this number continues to increase at a steady pace of roughly 6% each year (Bureau of Labor Statistics, U.S. Department of Labor, 2020; Görne, 2014; Torpey, 2011). In industries regarded as 'cutting edge' (e.g. high-technology, scientific, experimental), SEs can constitute more than 25% of the sales force. These relatively high percentages result from a distinct need for specialist or expert sellers possessing a solid understanding of the technical details of how a solution will perform in a customer environment (Darr, 2006, p.1).

Sales engineering primarily influences the design and delivery of complex products and services in the industrial, chemical, manufacturing, and information technology sectors (Torpey, 2011; Williams et al., 2012). Organisations deploy SEs to support sales processes for solutions requiring a significant level of technical expertise to deliver buyer-demanded outcomes (Reunanen et al., 2018). Globally, more than $50 trillion in B2B transactions occur each year (International Monetary Fund, 2020; Lilien, 2016). Of this amount, SEs directly facilitate the sale of more than $10 trillion in goods and services each year based on estimates of the direct economic impact of sales engineering in B2B selling (Bumblauskas et al., 2017; Görne, 2014).

Organisations deploy SEs to engage customers in the design of solutions that are not well understood by general buyers and sellers (Wilson & Hunt, 2011). The need for an SE to function as a boundary spanner or 'bridge' between what is known (i.e. previously implemented technologies, products, or solutions) and what is possible (i.e. emerging technologies and potential implementations of solutions; Piercy, 2009) requires SEs to play roles that entail high levels of communication and sensemaking (Dean et al., 2017). Furthermore, B2B sales organisations and their customers tend to view the SE as an individual who performs the 'dark art' of selling complex, high-value solutions by leveraging deep domain expertise in the context of the B2B solution selling process (Care & Bohlig, 2014). To this end, SEs frequently draw on their own direct experience in the use or implementation of those solutions (Darr, 2015). Sales engineers strive to ensure credibility with customers by simultaneously demonstrating technical expertise alongside skills and competencies usually associated with 'typical' B2B selling (Care & Bohlig, 2014; Darr, 2006).

2.3.2 The Professional Identities of SEs

Around the year 2000, Leigh and Marshall (2001) observed that the selling function was undergoing an 'unparalleled metamorphosis'. Twenty years after Leigh and Marshall's insights, the pace of change seems to be accelerating. Jones et al. (2005) has noted that changes in the buyer–seller dynamic consistently occur along the intersecting dimensions of global business fluctuations, societal shifts, organisational transformations, and technological advancements (Lee, 2012, p.104; see Figure 2.4). Jones et al. (2005) note that, while the change stimuli in the buyer–seller dynamic have remained relatively constant, the cognitive demands on sellers have outpaced the ability of traditional transactional or relationship-oriented sellers to respond to these requirements. Increasingly, customer-facing representatives of supplier organisations are asked to meet higher buyer expectations related to demonstrable solution expertise along with an intimate awareness of the customer's business. These increased requirements have motivated supplier organisations to seek technical experts (e.g. those with engineering backgrounds) to bridge their experiences in the technical world with the customer-facing world.

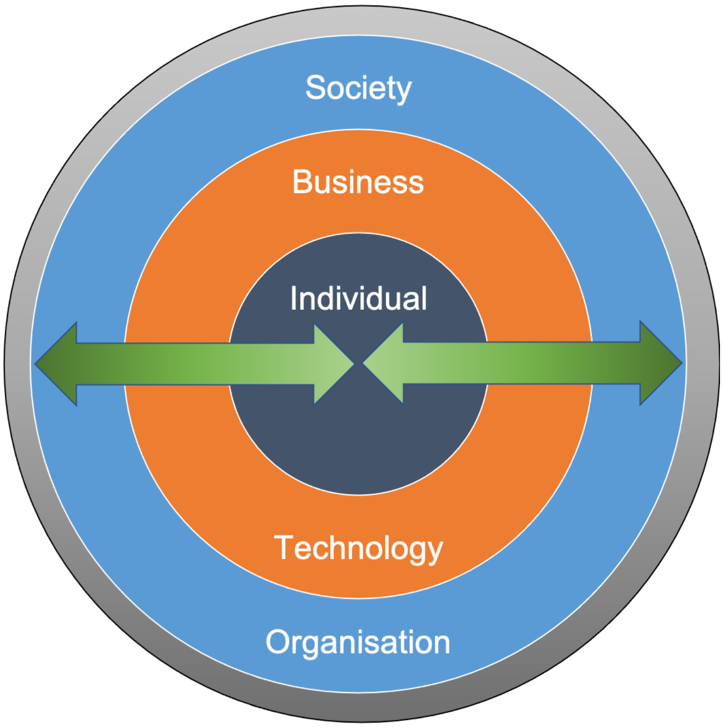

Figure 2.4: Influences on the Role and Identity of Individual Sellers (Lee, 2012, p.104)

Rather than explicitly hiring SEs, firms that sell relatively complex goods and services may instead simply opt to hire intelligent and skilled account managers to operate in a more consultative manner with their customers. Consultative account managers might then receive rigorous training in the technical aspects of their products and services (Williams et al., 2012). However, an unclear 'line' of complexity exists whereby a firm may still find it necessary to hire SEs who must then develop 'soft' (e.g. communication, consulting, influencing) skills and sales experience that go beyond their technical know-how (Darr, 2006). Additionally, SEs must develop expertise regarding how to handle customer situations that can include intense, politically charged situations (Millman, 1996). Firms that do not understand this precarious line of complexity or do not fully develop SEs in their roles as 'sellers' may face multiple risks, including poor customer experiences, loss of revenue, and attrition of more technically minded SEs (Handley et al., 2017; Lemaire, 1996).

It has been relatively rare for SEs to receive formal training in how to synthesise the contrasting knowledge and competencies of engineering and sales (Bumblauskas et al., 2017), whether in the academic stages of their careers or through the development of their roles and professional identities (Care, 2016; Darr, 2006). Researchers have posited that actively engaging in the professionalisation of sales engineering through the development of SE roles and identities could benefit both scholars and managers (Care & Daly, 2020). In this context, researchers argue that studies devoted to sales, at a broad level, have not adequately drawn from the theoretical foundations supporting studies of professional identity development (Lee, 2012, p.116).

Sales engineers reside in a unique position, vis-à-vis the buyer, when engaging in the process of B2B selling (Niu & Wang, 2011). If an SE demonstrates strong technical skills and expertise, drawing on a foundation grounded in engineering, these SEs' referential credibility is higher in the buyers' eyes when compared to generalist sellers (Care, 2016). The SE may subsequently develop a professional identity of 'expert' that allows buyers to overlook any potential conflicts of interest that exist. For example, a conflict of interest may be present because most SEs are economically incentivised, like generalist sellers, to influence customers to purchase particular solutions (Min et al., 2014). However, this situation is not unprecedented and resembles the position of professions in which potential conflicts of interest may exist related to the sale of goods and services (e.g. medical practitioners, legal advisors, financial advisors, consultants; Maister et al., 2000). Like these professions and the practitioners within them, SEs possess a higher level of perceived credibility and professional integrity, coupled with a relatively lower level of self-interest, leading to a higher level of implied trust (Ashforth et al., 2008). Therefore, these higher levels of credibility, reliability, and trust can co-exist alongside the presence of incentives to sell since, to create value-in-use, SEs tend to ground their professional identities in a worldview that demands professional integrity, honest advice, and a duty of care towards buyers (Care, 2016; Maister et al., 2000).

2.3.3 The Dual Identities or 'Worlds' of the SE

Sales engineers must balance, blend, and (ultimately) synthesise the dual identities of 'engineer' and 'seller' (Darr, 2006). Sales engineers who have not developed the ability to synthesise the professional identities of engineering and selling in their roles may feel as if they are operating simultaneously in 'two different worlds' (Bumblauskas et al., 2017).

Functionally, SEs seek to synthesise their technical expertise with an ability to advise customers through the role of 'explainer' or 'technical linker' (Reday et al., 2009) to encourage sensemaking throughout a customer's buying journey. Sales engineers engage customers to ensure they are accurately informed and educated so that buyers understand the relevant information about possible solutions (Darr, 2006). Sales engineers also face the particular task of providing accurate information regarding technologies or solutions that have yet to become 'mainstream' or where there is a great deal of ambiguity (Darr, 2015). The SE must effectively link complex ideas, products, and services into a customer recommendation that has the potential to create value (Reday et al., 2009). These recommendations often involve solutions possessing a level of complexity about which generalist sellers struggle to understand and communicate to buyers (Leslie & Holloway, 2006). When asymmetries of information exist, even temporarily, between SEs and generalist sellers, the SE's relevance to supporting buyer engagement is even more vital (Darr, 2015).

The SE's professional identities and roles remain distinct from the 'worlds' that are often understood to be a part of either 1) various 'pure' engineering disciplines (Brunhaver et al., 2013; Bumblauskas et al., 2017) or 2) traditional B2B selling roles (Marcos-Cuevas, 2018; Lemaire, 1996). As such, sales engineering does not fit neatly in either field (Bumblauskas et al., 2017).

Sales engineers are closely associated with the solutions in which they have developed a degree of expertise and mastery. Nevertheless, they must also navigate the domains of finance, business, and other spaces that some SEs might see as the 'necessary evils' of the sales process or as mere 'paper pushing' (Hansen & Mouritsen, 1999). If SEs have not adequately contemplated and developed the dual nature of their roles and identities, they may be reluctant to assume these responsibilities that are more commonly associated with sales (Carberry & Baker, 2018). Subsequently, managers may face problems of SEs viewing any front-line, customer-facing roles as a step down from the 'more prestigious' roles of researchers, developers, or 'pure' engineers (Darr, 2007).

In summary, sales-engineering roles and practices support the increasing demands faced by B2B sales teams concerning their engagement with customers in the value co-creation process (Darr, 2000, 2002; Storbacka et al., 2011). Since the nature of delivering a 'solution' for a buyer implies a problem to be solved, SEs aim to provide their B2B sales teams with an understanding of the customer challenges before any recommendations or purchases of supplier solutions are made (Matthyssens & Vandenbempt, 2008). The literature has much to offer regarding the 'why' of solution selling and value creation and how these practices are becoming crucial in B2B selling (e.g. Ulaga & Kohli, 2018; Vargo & Lusch, 2017). However, concerning the broader topic of selling in complex B2B environments and value co-creation, a gap exists related to an understanding of the 'how' of solution selling and the role of specialist or expert sellers, such as SEs, in this process (Carberry & Baker, 2018; Darr, 2000).

2.4 Service-Dominant Logic

Service-dominant logic describes a metatheoretical framework that emerged in the early decades of this century amidst concerns that traditional G-D logic, then prevalent in much of the marketing and sales literature, remained out of step with how economic and social exchanges actually happen (Vargo & Lusch, 2004b, 2008, 2016). In response, S-D logic attempts to reconcile the way that G-D logic fails to consider how service (e.g. knowledge and expertise) catalyses value creation and 'unlocks' the latent potential for goods to aid value-in-use. Furthermore, S-D logic encapsulates a 'service realisation' that reflects ongoing, gradual changes to economic and social activities that have occurred over the last several decades (Lusch & Vargo, 2014). Additionally, S-D logic attempts to codify the shift away from a view that goods possess any embedded utility or intrinsic value (i.e. value-through-exchange; p.4). Instead, S-D logic places a focus on organisational 'actors' who reciprocally integrate their resources (e.g. applied knowledge, skills, capabilities) with other actors for mutual benefit—that is, for mutual value creation through the deployment of capabilities (e.g. goods and services; p.3).

The S-D logic approach transcends the G-D logic prevalent throughout the 20th century and the relationship marketing theories that dominated the selling of that time (Lusch & Vargo, 2019). In this transcendence, S-D logic conceptualises economic and social exchanges as outcomes of the 'application of one's resources for the benefit of another actor' (p.3). This focus on resources stands in stark contrast to outmoded views that goods represent the basis for economic and social outcomes and benefits (p.4). Instead, goods and services constitute solutions to customer problems and are merely a means to an end. These solutions are put into service, and value is created through the application or use of the solution. The foundational principle that guides the engagement of actors (traditionally, we think of these actors as buyers and sellers) in S-D logic concerns the opportunity to exchange value and, therefore, co-create value. In the context of S-D logic, if no occasion to co-create value is apparent to the actors involved, then the right thing for these actors to do is to wait for such a mutually beneficial, value-oriented opportunity to arise.

2.4.1 What is Value Co-Creation and How Does it Occur?

Adam Smith, in his *Wealth of Nations* (1776), distinguished between 'real value' (i.e. 'value-in-use') and 'nominal value' (i.e. 'value-in-exchange'), noting that the source of all real value originates from the application of specialised skills to create value in the course of economic activity. In the latter half of the 20th century, researchers sought to delineate 'services' from 'goods', but settled on treating the former as merely another type of product or solution by viewing services as 'intangible units of output' (e.g. Zeithaml et al., 1985). However, this divergence from Smith's (1776) original view of 'real value' to a goods-centric view of value created conceptual complications for researchers and practitioners. By the mid-to-late 1990s, marketing and business began fully transitioning away from approaches that centred strictly on goods and services to instead focussing on relationships in B2B organisations (Grönroos, 2000; Gummesson, 1995). Around the same time, researchers shifted away from emphasising the idea that goods possess any embedded value towards an emphasis on processes and the proper utilisation of goods as enablers of value co-creation (Prahalad & Ramaswamy, 2000) and experiences (Pine & Gilmore, 1998).

The core concept of value-in-use originates from Aristotle's view that value exists as a subjective outcome resulting from the use of commodities and human effort rather than from any inherent properties of the commodity itself (Woodall, 2003). Theodore Levitt famously observed that 'People don't want to buy a quarter-inch drill. They want a quarter-inch hole!' (Levitt, 1960). A world of difference exists between providing a customer with the possibility of value creation through the sale of a drill (i.e. a commodity) and using the drill through the practice of carpentry in such a way that the customer will benefit (i.e. service; Lounsbury & Crumley, 2007).

Rolls Royce posits that its customers do not necessarily want to buy jet engines; they want to secure enough thrust to power their aeroplanes (Koskela-Huotari & Vargo, 2019). This re-orientation towards value-in-use prompted Rolls Royce to re-imagine their 'product' by offering 'Power by the Hour' as a service in which skilled and knowledgeable SEs from Rolls Royce work to provide this capability (p.53). The move towards 'software-as-a-service' (SaaS) offers another example of the re-imagining of products from the viewpoint of the beneficiary with an idea of what the software can do for a customer rather than assuming any inherent value exists in lines of code or a software license (Vargo & Lusch, 2017).

To this end, S-D logic seeks to avoid assigning participants in these economic and social exchanges with only narrow labels such as 'consumers', 'producers', or 'suppliers' in favour of the generic term 'actor(s)' (Vargo & Lusch, 2011). In this context, individuals and firms do not operate as B2B producers or consumers in a narrowly defined sense. All actors involved in the value co-creation process seek the (direct or indirect) benefit of the participating parties towards furthering their mutual prosperity as enterprises (Koskela-Huotari & Vargo, 2019).

As a metatheoretical framework, Vargo and Lusch (2016) conceptualised S-D logic using five foundational principles:

1. Service is the fundamental basis of value exchange.
2. Value is co-created by multiple actors, always including the beneficiary.
3. All social and economic actors are resource integrators.
4. Value is always uniquely and phenomenologically determined by the beneficiary.

5. Value co-creation is coordinated through actor-generated institutions and institutional arrangements.

Whereas G-D logic places the seller as the central (and possibly the only) actor responsible for value creation through a monetary transaction that seeks to maximise a firm's profits, S-D logic emphasises collaboration through trusted engagements in order to co-create value. The latter sort of collaboration benefits all the actors involved in an exchange of service between cooperating parties (Koskela-Huotari & Vargo, 2019). This service-oriented basis for economic and social exchange transcends the output-based limitations placed on exchanges informed by G-D logic (p.42). Continuing, S-D logic emphasises two areas of competency that customers expect expert sellers to demonstrate and possess (Vargo & Lusch, 2017): First, customers expect to engage expert sellers who can co-create value via interaction with a customer. Second, expert sellers should possess proficiency in the application of specialised knowledge, skills, and abilities in customer business environments (p.47). These particular areas of expertise are the unique domain of expert sellers such as SEs (Darr, 2015).

Potential confusion may arise for customers who encounter B2B selling informed by G-D logic, because the incentives given to a salesperson may encourage a seller to move a customer to adopt a new product or service even if an alternative offering (e.g. a solution available from a competitor) could generate more value (Darr, 2015). When viewed through the lens of S-D logic, to avoid violating the integrity of the customer relationship, the preferred action for a seller to take might be to advise the customer against buying a new product or service on offer (Hartmann et al., 2018, p.13). This type of service-centric approach is one that, arguably, might be more aligned with the role and professional identity that specialists or experts, such as SEs, tend to adopt with customers (Care, 2016). Cialdini (1999) explains the fine line that skilled sellers must walk while pursuing value creation in this way: failing to ethically influence a customer to adopt the best solution is inept, while the illicit or unethical use of influence for short-term personal gain will backfire in the long term.

An orientation towards S-D logic in selling emphasises a consultative approach, genuine curiosity, empathy for the customer, and professional integrity (Sujan, 2012) regarding solution recommendations or designs that a seller might choose to offer a customer (Luotola et al., 2017). This type of value orientation aligned with desired customer outcomes requires demonstrating roles and identities embedded in broader social practices to support exchanges of social value (Giddens, 1984). An analysis of the relevance of S-D logic to individual and social (e.g. organisational) roles and identities as viewed through the lens of structuration theory is summarised later in this literature review.

2.4.2 The Relationship Between S-D Logic and Identity Research

Based on its cross-disciplinary nature, S-D logic is increasingly being utilised as a theoretical lens to understand and study society and various human-centric systems (McColl-Kennedy & Cheung, 2019). The resource integration involved in value co-creation incorporates diverse, complex, and idiosyncratic processes that are phenomenological in nature (McColl-Kennedy et al., 2012). The phenomenon of value creation remains difficult to observe, since it cannot be separated from the practices and experiences of individuals involved in the various actions and activities that lead to the outcome of value creation (p.74). As a result, relatively few research studies have attempted to understand the individual (micro-level) engagement in the process of value co-creation (McColl-Kennedy et al., 2015). Because of this, there is a need to develop empirical observations regarding how value co-creation actually occurs. Conceptual frameworks of how actors engage in value co-creation can serve to guide managers who aim to reliably synthesise related individual and group phenomena in organisations and business (Frow & Payne, 2019).

Service-dominant logic is influenced by identity research and theory, partly because of the importance of individual actor roles and identities for the value co-creation process within a social construct. As in the broader setting of society, actors in the context of S-D logic interpret their world, determine their roles, and construct their identities through social interactions (Giddens, 1984; Goffman, 1963). Through the examination and interpretation of social structures, norms, rules, experiences, and contexts, it may be possible to comprehend the phenomenology and social reality of actors engaged in value co-creation (Vargo et al., 2015). In society, structures interact, overlap, and conflict while actors involved in the process seek to adjust their roles and identities within the value co-creation process (Giddens, 1984; Vargo et al., 2015). In this way, individual actors realise 'value-in-context' as a phenomenologically constructed reality through their lived experiences (Vargo et al., 2015). In the context of these lived experiences, the way that actors (both buyers and sellers) view and understand value co-creation requires more thorough study to understand how the principles related to S-D logic are enacted in B2B engagements (Vargo & Lusch, 2016).

Continuing, S-D logic draws on research and concepts from structuration theory (Giddens, 1984) concerning how human behaviour is framed and influenced within (and by) social systems such as organisations, roles, and the processes that impact social structures and individual identity (Kleinaltenkamp, 2019; Ng et al., 2019). Societal institutions, such as organisations, represent dynamic phenomena that are also subject to the influence of individual human actors (Scott, 2013). Understanding the placement of social structures and individual identity is essential in the context of S-D logic, since they influence the effectiveness and efficiency of value co-creation (p.267). The symbols, rules, routines, expectations, and relationships that operate in the social construct all function to shape the roles and identities of individual actors seeking to co-create value (Giddens, 1984; Kleinaltenkamp, 2019). It is vital that actors involved in co-creating value have a sense of how other actors form their reality and, therefore, their conceptualisation of value. Without this knowledge, it may be difficult or even impossible for actors to facilitate value co-creation (Löbler, 2019).

By drawing from diverse academic domains such as sociology, social psychology, organisational studies, business, marketing, and communications, S-D logic serves as a useful lens for research into human sensemaking regarding an individual's role and identity development in B2B contexts. The S-D logic lens allows research to enlarge the understanding of how individuals influence markets and value exchanges. Furthermore, S-D logic also provides an essential lens through which researchers can explore approaches that individual actors (e.g. SEs) might undertake in the process of continual role adaptation as they pursue value co-creation (Wieland et al., 2019).

Actors in S-D logic develop 'functional identities' that are utilised and adapted as part of the roles played in the value co-creation process (Ekman & Röndell, 2019). As in theories of identity, S-D logic recognises that the roles and identities of actors, as they become involved in service-for-service exchanges of value, adopt and adapt their 'performances' based on the nature and context of the interaction (Goffman, 1959). Theoretically, empirically, and practically, understanding the way that actors perform their roles and adapt their identities is essential for a clearer understanding of value co-creation in the domain of B2B selling (Vargo & Lusch, 2008).

For this study into the lived experiences of SEs, both S-D logic and structuration theory offer unique positions and useful theoretical foundations. Service-dominant logic contains, and is grounded in, Giddens' (1984) theoretical conception of structuration. Structuration theory and S-D logic both contain and explain many of the concepts related to the dualistic influences of structures, rules, norms, and culture of and by societies and individuals (mainly related to roles and identities). In a sense, structuration theory and S-D logic form two sides of the same coin—namely, 1) the work of identity creation and adaptation seen as necessary to affect the application of S-D logic alongside 2) organisational transitions that are presently underway in pursuit of the kind of value co-creation in B2B selling that is informed by S-D logic, requiring a change in role performance and professional identity work.

2.5 Identity: Individual, Group, Societal, and Professional

The origins of contemporary studies of identity and the 'self' emerged from the work of early moral philosophers such as Adam Smith and David Hume during the Scottish Enlightenment of the 18^{th} century (Serpe & Stryker, 2011). These philosophers laid the groundwork for current theories of identity through their observations of human nature and 'self' as social states offering dual reflections of both the societies in which individuals operate and the interactions of individuals within those societies. In theories of identity, society comprises an outcome of the ongoing, reciprocal action occurring between individuals and groups (Erikson, 1950). Therefore, individual identities and the individual conception of the 'self' develop at the nexus of various social interactions and social behaviours within groups (Stryker, 1980).

Unfortunately for researchers, an individual's inward identity is not a substance that is available for outward observation (Erikson, 1950). Instead, identity represents a social and psychological process that humans internalise in an organic form. Reflections of inward identities begin to emerge as observable phenomena from within social processes that occur via the interaction of individuals with (and within) groups (Mead, 1934). Through these processes, individual identities develop and evolve. Furthermore, the nature of a group is also subject to influences from individual members within a group. Through these interactions within the context of the group, more complex organisations with more elaborate structures evolve in a symbiotic fashion (Stryker, 1980). As such, the inter-relationship between individual and group represents a continuous process in which the group shapes the individual and the individual shapes the group, thus leading to further differentiation and evolution of more complex organisations.

Stryker and Burke (2000) define identity as the parts of the self that are 'composed of the meanings that persons attach to the multiple roles they typically play [simultaneously] in highly differentiated contemporary societies' (p.284). Since these multifaceted identities are ever-evolving, researchers now describe identity as something, or someone, that individuals are continually <u>becoming</u> rather than a static state that an individual achieves (Sveningsson & Alvesson, 2003).

Individual identity relates to how humans define and understand 'self' on a personal level. Through an introspective lens, individuals seek to answer the question 'Who am I?' Socially, individuals seek to understand the question 'Who are you?' within the milieu of individual beliefs, experiences, and interactions with others (Vignoles et al., 2011). The fundamental idea of 'self' appears uncomplicated, but this simple idea masks a great deal of complexity (p.2). For example, individuals create, maintain, and adapt multiple identities over time (p.3). Additionally, the word 'you' can mean personal identity (individually) or an individual's relationship with friends, family, colleagues, or customers (relationally). In this context, the word 'you' can also mean a group (collectively), such as political parties, co-workers, teammates, or the members of a profession (p.4).

The following sections of this chapter provide examinations of some of the core theoretical underpinnings of the study of identity. Analyses of the literature related to identity theory and social identity theory consider how researchers characterise the formation of personal and social identity along with how these two theories differ in important ways (Hogg et al., 1995). Perspectives and frames such as symbolic interactionism, involving the link between social interaction, symbols, and roles that individuals enact as a part of the creation of identity (Stryker, 2007), are also examined. The structural social dependencies that emerge to support roles, such as professional identities, are considered in a review of Giddens' structuration theory (Giddens, 1984).

2.5.1 Considerations of Foundational Theories of Identity

Significant theoretical frameworks that inform the study of identity include identity theory, social identity theory, and structuration theory (Serpe & Stryker, 2011). These theories all recognise identity as a foundational component of the subjective reality of the human experience. Furthermore, these theories also suggest a dualistic explanation of identity—no personal sense of 'self' can exist that is separate from society, while societies cannot exist without a collection of these individual 'selves' (Vignoles et al., 2011). The idea, and awareness, of 'self' is underpinned by humans' ability to be introspective. Some of these self-reflective behaviours appear spontaneous, but most are characterised in early identity research as being conscious or self-regulating, and therefore, the result of individual choices to act out particular identities and 'roles' (Goffman, 1959).

In seeking initial insights regarding the phenomena of identity, early researchers sought to explore the linkages between society and self and to locate those linkages within key theoretical works. James (1890) and Mead (1934) contributed fundamental insights concerning identity development that describe the 'multiple selves' that individuals form. However, early researchers seeking to study identity as both a social and psychological phenomenon grappled with the persistent problem that 'the self' is not objectively observable by a researcher (Kroger & Marcia, 2011). Only individuals' outward behaviours and actions, as reflections of their inner selves or identities, are observable by researchers (Erikson, 1950).

Where identity theory focusses on the role of the <u>individual</u> in society, social identity theory seeks to explain the role and influence of <u>society</u> on the individual (Vignoles et al., 2011). Despite this difference in focus, identity theory and social identity theory both strive to explain and address the nature of the self in the context of society. Both viewpoints contend that there can be no self that is separate from society. Additionally, both approaches regard the concept of 'self' as a frame of reference that can contain multiple identities and, furthermore, that the self is constructed based on the normative influences of groups in society (Berger & Luckman, 1966).

Both identity theory and social identity theory draw on the work of symbolic interactionists such as Cooley (1902) from the late 19^{th} and early 20^{th} centuries who, through the lenses of sociology and psychology, consistently defined the self as a product of social interaction. The perspective of symbolic interactionism allows researchers to frame how identity is shaped by the use of various symbols, such as words, gestures, rules, and roles in groups and society.

Structuration theory gained prominence in the late 20th century as a way to consider how the structural influences perceived in societies, groups, and an individual's agency influence the development and demonstration of identities (Giddens, 1984). Structuration theory extends the concepts contained in identity theory and social identity theory by giving primacy to the agency of the individual in the context of identity creation and adaptation (Stones, 2012). Structuration theory also seeks to clarify and define the social structures that influence, and are influenced by, individuals as they interact with one another in groups and with broader societies.

When considered as a whole, these theories and models of identity serve as a foundation for researchers to frame, study, and further contemplate the nature, implications, and demonstration of identity in societies and groups (Vignoles et al., 2011).

2.5.2 Structuration Theory

This section examines structuration theory in greater detail. The importance of structuration theory to the concepts that establish S-D logic as a meta-theoretical framework make structuration theory a potentially compelling frame of reference for a study seeking to understand the evolution of value creation in the context of identity work and role performance.

Through structuration theory, Giddens (1984) offers a premise concerning an enduring dualism and interchange present between identity work's objects (societies and groups) and subjects (individuals). Giddens theorises that individual roles emerge and exist in social structures. Understanding of these roles and structures arises through observing and interpreting the back-and-forth occurring between societies and individuals at their structural 'boundaries'. In framing the core concepts of structuration theory, Giddens posits that these structural boundaries, at which the interaction between individual and group behaviours occur, represent the units of analysis that may be examined by researchers (p.282). In structuration theory, boundaries constitute the points at which individuals interact with group members in society. Observable interactions at the boundaries between individuals and groups contrast behaviours that are exclusively individual and, accordingly, are unconsciously experienced, internalised, and hidden to the researcher. This bounded structure that guides identity work is what Giddens sought to systematically describe and empirically observe through the application of structuration theory in research (p.283).

Structuration theory seeks to make sense of a dichotomous polarity and symmetry present between agency and structure in the overall context of roles and identities. In this way, structuration theory shares a great deal in common with symbolic interactionism (Blumer, 1969; Mead, 1934). Structuration theory serves as a means to engage in discourse regarding the fundamental nature of society, the individual, and various boundary-spanning inter-societal systems. Structuration theory also provides a lens through which one may study the interchanges between human being and human doing. Giddens' (1984) purpose for structuration theory is grounded in a goal to provide researchers with a more reliable method to trace individual and group practices along specific observable paths of behaviours. These pathways, in Giddens' view, represent means to make sense of the dynamics of individual and group practices and represent an attempt to apply a systematic approach to the study of society.

Structuration theory is foundational to the metatheory of S-D logic (Vargo et al., 2015). The capacity for organisations and individuals to develop, adapt, disrupt, sustain, or transform in the pursuit of new value propositions to enable social and economic exchanges is central to the premise of S-D logic (Edvardsson et al., 2014). Because of their exposure to a broader range of knowledge and influences, individuals who operate in boundary-spanning roles in organisations and markets are better able to engage in the value-construction process, both socially and economically (Rangarajan et al., 2004). Like S-D logic, structuration theory does not distinguish between value exchanges that are perceived to be social or economic, since all value exchanges are catalysed by individual actors (Vargo & Lusch, 2017) in the context of an organisation, making them socially constructed.

Structuration theory may be of particular use in a study of the development of professional roles and identities, such as those of SEs. The incorporation of theories-in-use and the development of climates of reflection, interpretation, and action drawing from the concepts of structuration theory could further benefit this study. Additionally, the literature related to structuration theory and S-D logic offers examples of methods employed to analyse individual sensemaking, identity creation, and role adaptation in theory and practice. Methodological applications of S-D logic (in research and as a midrange theory; Jaakkola et al., 2019) include ethnography, various approaches to phenomenology, and narrative discourse analysis in the context of professional identity development (Berthod et al., 2019). Structuration theory offers potentially useful approaches and methods for the study of the lived experiences of individuals in roles, such as SEs, in which it is essential to consider positional and organisational impacts on those individuals.

2.5.3 Professional Identity

This section provides a review of the literature related to professional identity in order to explore and differentiate this aspect of identity in the context of the broader underlying theories associated with identity research. Professional identity refers to individuals' self-awareness regarding their 'position' as a worker in society along with an individual's relationship to groups and members of these groups (Erikson, 1968). Researchers have noted that establishing a coherent, positive, self-directed, and adaptive sense of professional identity represents an essential predictor of career success (Skorikov & Vondracek, 1998).

Among the numerous types of identity found in the literature, professional (or occupational) identity is present in all significant theories of identity (Skorikov & Vondracek, 1998). Erikson (1968) posited that healthy development of professional, ideological, and sexual identities in an individual is crucial to the long-term development of the sense of self, beginning in adolescence and continuing through adulthood. Professional identity (also referred to as occupational or vocational identity in the literature) is of significant importance in the identity-formation process (Super, 1980). Professional identity performs a conceptualising function in the individual quest for self-actualisation throughout life (Vondracek, 1995). Professional identity development is vital in professions that might be considered a 'calling' (e.g. medicine, education, the arts) or those that might be considered a 'career' (e.g. the law, accounting, consulting, foreign service; Bluestein, 2006) as compared to occupations classified as merely 'a job' or 'work' (Walsh & Gordon, 2008).

At least two perspectives describe considerations pertinent to professional identity development: First, professional identity development can be considered, quite simplistically, as an alignment to, and sound identification with, a profession (or group of professionals) possessing common interests (Chreim et al., 2007). Second, professional identity development describes a process whereby an individual develops and adapts core technical skills and capabilities alongside beliefs, aspirations, and life experiences that coalesce into a 'coherent image of self' (Cascio & Gasker, 2001, p.284).

Theories and concepts regarding professional identity development and adaptation would logically be foundational to a study of the formation and transition of identities by groups of professionals and the individuals comprising that group. How individuals develop an identity that aligns with the common group interests related to professional identity, as well as the ways in which professional beliefs or aspirations influence identity development, could serve as useful approaches in a related study of SEs.

2.5.3.1 How Professional Identities are Constructed

Professional identity construction represents a complex process that incorporates sensemaking and meaning-making that trigger actions grounded in an individual's motivations and competencies shaped by the cues from, and interaction with, other individuals (Ashforth, 2001). For example, these other individuals include in-group members such as parents, friends, classmates, peers, or educators. Furthermore, out-group influences also occur through the observation of societal norms or expectations built up via influences and observations in daily life (Meijers, 1998). Relatively few studies have approached the process of professional identity work at the individual level (Sveningsson & Alvesson, 2003). Some of the few studies on identity construction related to specific professionals include those in education and medicine (e.g. Chreim et al., 2007). The literature pays minimal attention to professional identity in the arenas of selling or sales engineering at both the individual and group levels.

One debate that has long been represented in the literature dealing with identity, and professional identity specifically, concerns the degree to which identities are stable or fluid. Burke (1980) surmised that role identities are difficult to examine because they develop slowly and exist outside the moment-to-moment interactions or situational demands of life and work, thus making identities appear stable. Burke proposes that examining the phenomenon of 'role-making' could offer a more useful frame of reference for researchers examining the externalisation of behaviours related to the process of 'becoming' the role or identity to which an individual aspires.

Professionals may possess multiple major work roles (Hotho, 2008), and as such, it is necessary for any observation of the role-making process to also occur in the context of hybrid identities (Sveningsson & Alvesson, 2003). For example, scholars have outlined managerial jobs as a type of hybrid role requiring considerable flexibility. A manager's role fragmentation may be the result of a chaotic or ambiguous work environment, but that does not necessarily mean that an underlying identity is something that is, itself, fragmented. However, researchers have pointed to the experiences of managers who view themselves as a combination of identities, such as administrator, spokesperson, innovator, or cultural integrator. All of these identities may be sufficiently distinct to give managers the sense of being pulled in different directions or operating in different 'worlds' in their roles. Sveningsson and Alvesson noted in their research that awareness of, and a focus on, identity work can lead to a more coherent and synthesised identity for a professional. This knowledge of identity and identity work may act to moderate crises of professional identity perceptions that occur (p.1187).

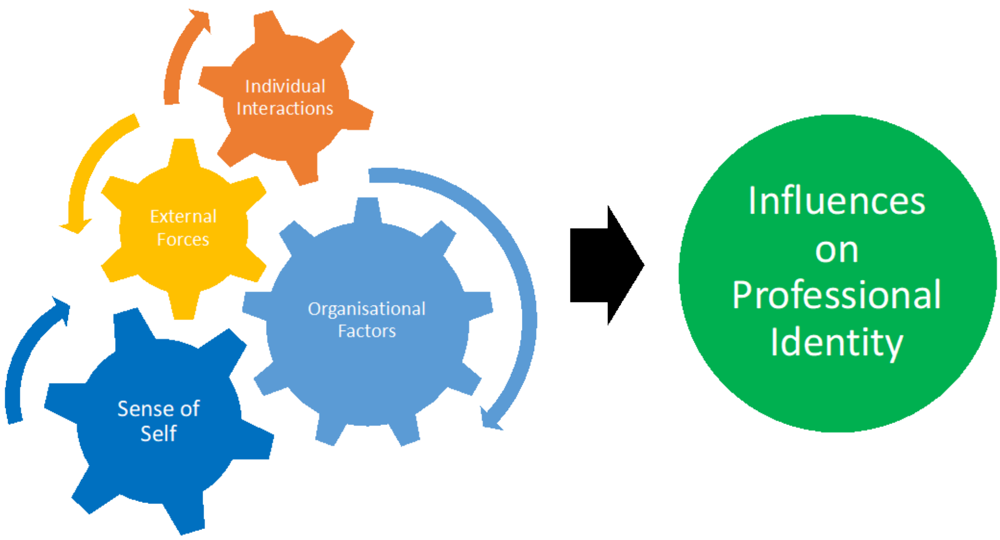

Figure 2.5: Influences on Professional Identity

Professional identity emerges through the interplay of where one works, what one does, and with whom one works (Hotho, 2008). Factors such as how professionals view themselves, how professionals believe they are perceived, the actions professionals take at work, and the violations of these views and perceptions based on requirements that do not ‘fit’ with the codified expectations of the profession all heavily influence the way that professional identity emerges (Pratt et al., 2006; see Figure 2.5).

Unlike those who operate in credentialed, standardised, or regulated professions, an ordered set of expectations or practices may not be available to SEs as they transition into the role, since there is no standardised body of training through which they can navigate the requirements of what it means to be an SE (Röhr, 2016). These gaps may represent an opportunity to examine and research the factors that influence SEs’ professional identity development in the context of their work and work environments.

2.5.3.2 Factors Influencing Professional Identity

Like the broader observations regarding society’s influence on the individual and individuals’ influence on society, researchers have noted the same dynamic in studies of identity in the workplace (Ibarra & Petriglieri, 2010). The literature characterises professional identity work as an interpretive set of activities in which the sense of self emerges from a search for stability based on the influences of groups and other individuals in work situations (Alvesson & Willmott, 2002). In this sense, organisational and professional identity are closely linked. Managers, employees, and other stakeholders create facets of professional identity through an iterative process as they interact (Ibarra & Petriglieri, 2010).

In order to distinguish individuals who are more highly skilled than others, managers may categorise or rank professionals based on what they view as critical ‘soft’ skills, such as communication, influencing, and the ability to credibly and reliably engage customers (Ibarra, 1999). The combination of ‘hard’ (i.e. technical) and ‘soft’ skills increasingly influences professionals’ employability and upward mobility in roles like SEs (Marks & Scholarios, 2007). It is my experience that, as with the development of certain specialist professions in the medical field, SEs might receive a great deal of focussed training regarding the technical and ‘expert’ nature of their role. However, SEs may not receive much guidance or instruction in exactly how to play their role when engaging external stakeholders (e.g. partners or customers) or internal stakeholders (e.g. colleagues or managers) through the application of ‘soft’ skills.

For SEs, the exploration of identity work undertaken to balance sales and engineering involves context and expectations related to the various groups and stakeholders that influence SEs. The complex interplay between the sense of self experienced by SEs and the self-regulation that they may undertake to adapt their identity based on the feedback loops they encounter remain unexamined phenomena in academic research. Research insights may arise from explorations of the expectations, encounters, and interactions between SEs and their stakeholders. Ongoing identity work, and the resulting sense of self that develops over the longer term, may also represent a source of insight in a study of identity development and adaptation by SEs.

2.5.3.3 Adaptations and Transitions of Professional Identity

Professional identity forms over time based on a variety of experiences and associated feedback loops through which individuals gain insight concerning their preferences, capabilities, and values (Schein, 1978). While professional identity may remain relatively stable once established, changes in a professional's placement, function, or responsibilities in an organisation may necessitate adaptations and transitions of professional identity (Ibarra, 1999).

Identity work itself represents a turbulent and intense process through which individuals seek to model their behaviours based on observations, perceptions, and feedback (Ashforth et al., 2014). In a professional context, events may occur at any stage of a professional's career that could cause someone to critically reflect upon the question, 'Who am I and how do I fit in this organisation?' (Kroger & Marcia, 2011). The reality of a reconsideration of professional identity is even more acute when individuals take on an expanded job function or responsibility in an organisation (Ibarra, 1999). For example, moving from a technical, 'back-office' job into a customer-facing, 'front-office' function may trigger new rounds of identity work (p.764). Examining related transitions and adaptations in SEs' professional identities as they transition from 'pure' engineering roles may serve to inform a study regarding how SEs adjust their identities to take on customer-facing roles.

2.6 Locating the Management Problem

In increasingly competitive B2B markets where buyers may perceive 'sameness' in many of the solutions offered by suppliers, sellers must possess more in-depth knowledge of a customer's business, challenges, needs, and requirements (Kaski et al., 2017). Paradoxically, however, in the face of rapidly mounting sophistication of products and services, the products themselves tend to be increasingly built on almost identical, modularised platforms that make any goods-level differentiation marginal at best (Piercy & Lane, 2012). In this way, sellers might need to create (rather than recommend) unique applications of solutions that will measurably influence business outcomes (Virtanen et al., 2015).

In many B2B selling organisations, such as those offering information and communications technologies, the nature of selling has been slowly evolving towards more involved engagements with more frequent innovations and rapidly changing supplier offerings (St. Clair et al., 2018). For traditional relationship-oriented sales organisations, this may require involving specialist or expert sellers like SEs to counteract a decrease in sales performance and strengthen B2B sales capabilities. The literature related to industrial and personal selling highlights the complexity of the B2B sales process and how it has evolved beyond the capacity of generalist sellers to operate on their own (Arli et al., 2018).

Today, B2B buyers expect they will have the opportunity to engage experts from supplier organisations in the design and implementation of solutions that will co-create value for both buyer and seller, but they are often disappointed (Reday et al., 2009). Managers primarily experience this problem as a gap in the number of qualified individuals in their B2B sales teams who can meet elevated buyer expectations regarding capability and knowledge related to value creation. Additionally, managers are acutely aware of the limited number of individuals possessing deep expertise and hands-on experience with the solutions sold in buyer environments and situations (Darr, 2006).

Currently, B2B selling is undergoing dramatic changes made more pronounced by customer, technological, and managerial pressures altering what B2B sellers (e.g. account managers and SEs) must know, do, and achieve (Cravens, 2012). In addition, B2B sales leaders have reported that SEs may face difficulty demonstrating effective selling, influencing communication-related, and 'soft skills' in conjunction with their engineering and technical expertise (Kopecka et al., 2012). Business-to-business sales leaders have described these skill gaps as difficulties in synthesising the dual technical and sales personas necessary within the roles that SEs play (Darr, 2003; Donnell et al., 2011; Sharma et al., 2008; Storbacka et al., 2009).

Business-to-business sales leaders characterise the ability for SEs to develop sufficiently within their roles through the synthesis of a unique engineering–sales identity as a pressing issue (Dean et al., 2017). For managers and stakeholders who rely on practising SEs, the ability to develop SE roles and professional identities in a way that supports the growing interdependence between technical and influencing skills in the work of sales engineering represents a crucial management challenge (Darr, 2006, pp.5-7). If managers or stakeholders view SEs either as 'too technical' or as those who 'do not understand customer business concerns', this may compound the management challenge (Dean et al., 2017). Managers in B2B sales organisations may also be frustrated by what they see as the SEs' inability to adapt their roles and professional identities (Sharma et al., 2008). Due to these inter-related challenges, organisations find it difficult to consistently and productively fill, develop, and retain the SE function (Williams et al., 2012).

2.7 Existing Gaps in Literature and Practice

Despite the large numbers of SEs operating as industrial and B2B sellers, there remains little in the way of focussed research concerning sales engineering in the literature (Sharma et al., 2008). Academic researchers have accordingly called for more considerable practical research into the role of sales in the B2B buying relationship (Ulaga & Kohli, 2018), including more research into sales engineering (Sharma et al., 2008).

Sales researchers tend to point to persistent gaps in the overall sales literature (particularly in B2B selling; Avlonitis & Panagopoulos, 2010; Cortez & Johnston, 2017; Dixon & Tanner, 2012; Lilien, 2016). These gaps are more pronounced at the sub-topic level of research in specialised subjects or in sub-dimensions of B2B selling, such as sales engineering (Kopecka et al., 2012; Sharma et al., 2008). Much of the extant literature that touches on the field of sales engineering covers the subject as an adjacent area of focus. Some research deals with sales engineering as a function and practice (e.g. Bumblauskas et al., 2017; Darr, 2015; Röhr, 2016), but there remains a gap in studies of the roles and professional identities of SEs. There are a few studies and publications directed towards practitioners covering the role of the SE and stakeholders' needs (e.g. Care & Bohlig, 2014; Care, 2016); however, these studies are intended to benefit educators and practitioners.

Businesses today are experiencing increased disruption through an acceleration of the digitalisation of products, services, and distribution channels (Darr, 2015). Furthermore, the digitalisation of solutions has blurred the boundaries between technically oriented knowledge work and more relationship-oriented efforts in B2B selling (p.38). As the nature of B2B selling evolves towards a more service-driven, outcome-based practice (Pullins et al., 2017; Vargo & Lusch, 2017), more B2B selling work is shifting towards specialist and expert sellers like SEs (Kopecka et al., 2012). Such expert sellers and specialists have the opportunity to exhibit the skilful application of solutions in a customer environment where a product only becomes valuable when put to proper use (Piercy & Lane, 2012).

2.8 Research Questions That Inform This Study

This literature review has delineated how the technicisation of selling, shifts in buyer practices, and the emphasis on value co-creation through the application of S-D logic are portrayed by researchers. The B2B sales literature contains gaps related to the role that expert technical sellers must undertake as the buyer-supplier relationship continues to undergo evolution and technicisation. This literature gap highlights the need for a more substantial investigation into the role that specialists such as SEs play in approaches to B2B selling.

From the literature review, it is clear that, for individuals who operate in boundary-spanning roles (e.g. those that require both engineering and selling skills), 'identity work' is necessary to develop 'ambidextrous' approaches in the way professional 'actors' perform their roles. Furthermore, SEs may need to contemplate 'identity work' as a way to actively bridge and synthesise the two different 'worlds' of engineering and sales in their professional roles and identities which they must perform and develop.

Three research questions (RQ1, RQ2, and RQ3) guide the work undertaken in this study:

> *RQ1: What are the lived experiences of expert technical sellers, like SEs, as they establish, develop, and practise, their roles and identities in B2B selling?*
>
> *RQ2: How does the increasingly technicised and value-oriented B2B buyer–seller environment influence the role performance, professional identity development, and professional practice of expert technical sellers such as SEs?*
>
> *RQ3: How might SE professional identity development, role performance, and practice be conceptualised and framed to support a more consistent and professionalised approach to sales engineering?*

2.9 Conclusion

In the midst of rapidly changing customer and B2B organisational expectations regarding the design, sale, and delivery of solutions meant to deliver significant levels of economic value, it is vital to understand the experiences influencing SEs as they construct, adapt, and transition in their professional roles and identities. The way that SEs experience aspects of intergroup dynamics (internal and external) may influence their 'identity work' and the ways that SEs make sense of the pressure to co-create value in customer organisations. Each of these dynamics influence the professional roles and identities of SEs.

This literature review has also revealed gaps in research related to individual roles in B2B selling, the role and practice of sales engineering, the application of S-D logic, and the study of identity work in the context of B2B selling. It is in these areas that this study seeks to contribute to theory and practice through the study of SEs as they form, adapt, practise, and integrate their professional roles and identities. At the time of this writing, there had been no other such study of SEs or sales engineering.

Next, Chapter 3 seeks to convert the theoretical foundation drawn from the literature review, and the practical observations drawn from my experience, into a systematic approach to the research. The research design outlined in Chapter 3 emphasises three key areas: First, the research design seeks to align the aims of the research questions to the appropriate research methodology for data collection and analysis. Second, the research design proposes action research as a way to generate learning and further insights through the application of coaching with research participants. Lastly, the research design maps how this study aims to answer the research questions in a way that will benefit B2B managers as well as how answering these research questions may also contribute to the literature in the areas of B2B selling, S-D logic, and professional identity.

Chapter 3: Methodology

3.0 Introduction – Orientation to and Engagement with the Objects of Study

In Chapter 2, a review of the literature revealed the occurrence of a significant shift in business-to-business (B2B) selling (e.g. Pullins et al., 2017) that highlighted a management problem facing B2B leaders as they pursue value creation through the sale of solutions (e.g. Kaski et al.). In this context, managers also face the related challenge of rising customer expectations concerning value exchange and value co-creation that are informed by service-dominant (S-D) logic (Lusch & Vargo, 2019). Furthermore, the literature has little to say related to the deployment of experts, such as sales engineers, to address gaps in B2B selling practice (e.g. Handley et al., 2017).

Chapter 3 serves to outline, explain, and support specific direction concerning the empirical approaches used to collect, manage, and analyse research data covering this study's interrelated areas of focus. This chapter also frames how action research is applied to employ findings in a practical context. Furthermore, this chapter summarises how this study is conducted, methodologically, in pursuit of answers to the central research questions.

Chapter 3 contains nine sections beyond these introductory paragraphs. Section 3.1 revisits the research questions in the context of the research methodology. Section 3.2 provides an overview of the research philosophy, ontology, epistemology, and axiology as adopted for this study and the thesis. Section 3.3 describes and justifies the choice of qualitative research using methods from hermeneutic phenomenology in approaching this study. Section 3.4 deals with the design and execution of the research study. Action research is covered in Section 3.5 as an approach to increase engagement and develop further insights to advance and test 'theories-in-use' in the context of the research, data, participant experiences, and research questions. Section 3.6 outlines the method of analysis regarding the data and findings. Internal and external validation are discussed in Section 3.7, while Section 3.8 deals with considerations of ethics, confidentiality, and privacy. The final portion of Chapter 3, Section 3.9, presents a summary and conclusions of the key points concerning the research methods employed in this study.

3.1 A Return to the Research Questions

In returning to the research questions that emerged from my professional practice in B2B organisations, and were shaped by the literature review, it was crucial to search for a best methodological 'fit' to approach, answer, analyse, and act upon data applied to the pursuit of answers related to the research questions. Three main research questions (RQ1, RQ2, and RQ3) inform the research design and the approaches for collecting and analysing the research data.

> *RQ1: What are the lived experiences of expert technical sellers, like SEs, as they establish, develop, and practise, their roles and identities in B2B selling?*
>
> *RQ2: How does the increasingly technicised and value-oriented B2B buyer–seller environment influence the role performance, professional identity development, and professional practice of expert technical sellers such as SEs?*
>
> *RQ3: How might SE professional identity development, role performance, and practice be conceptualised and framed to support a more consistent and professionalised approach to sales engineering?*

As noted in Chapter 2, these research questions emerged from a combination of my direct experiences in practice and from an exhaustive review of the literature. Inquiries of the literature pertaining to B2B selling, including the role and practice of sales engineering, S-D logic, and identity research have all informed this study and the research questions. However, the nature of the research questions presents some unique methodological challenges, since the queries relate to an understanding of phenomena such as lived experiences, identity, and the way that professional roles are played. Within the research domains informing this study, various types of qualitative research have often been utilised and recommended in order to unveil data and new knowledge through observation, dialogue, or intervention. In the literature, researchers have highlighted the close theoretical and methodological association between structuration theory and S-D logic (Giddens, 1984; Vargo et al., 2015). Researchers have suggested that studies concerning the way in which 'actors' involved in value creation construct their identities and perform their roles might best be explored using phenomenological approaches (McColl-Kennedy & Cheung, 2019). Relatedly, research touching on B2B supplier-buyer actors, including SEs' role performances, have employed and recommended phenomenological or ethnographic approaches that draw on sensemaking and interpretation of individual experiences (Darr, 2006, 2015; Ryals & Rackham, 2015).

Throughout the process of establishing a methodological 'fit' for the research, it was also important to ensure that the research questions had authenticity from a practical and academic viewpoint (Easterby-Smith et al., 2018). Here, I utilised engagement with the research sponsors, two initial interviews, and a comparison of initial data collected through interviews against the aims of the research questions to validate the plausibility of the three core research questions and research methods (p.115).

3.2 Research Philosophy

3.2.1 Nominalism as an Ontological Orientation

Ontology concerns the philosophical assumptions researchers adopt regarding the nature of reality (Easterby-Smith et al., 2018) and the perspectives that researchers carry into a study exist along an ontological spectrum (see Figure 3.1). Scientific 'realism' is represented at one extreme in which researchers believe they can reveal objective single 'truths' while the other end of the spectrum features 'nominalism' or 'subjectivism', in which (in the extreme) researchers believe that no absolute 'truths' exist and that facts are merely human creations (p.64).

Figure 3.1: A Spectrum of High-Level Ontological Positions

A researcher that seeks to explore and illuminate individual experiences within and across a group of research participants may, by definition, need to embrace an ontological philosophy that multiple realities can exist simultaneously (Creswell, 2013). The nature of any studies of identity, the self, and the construction and adaptation of socio-psychological characteristics may immediately prompt such researchers to move away from an extreme version of ‘realism’. The question then becomes whether relevant truths about a thesis exist and if they are accessible to the researcher through an ontological lens other than that of realism. If the answer is ‘yes’, then there are at least three additional ontological perspectives to consider. First, the viewpoint of ‘internal realism’ claims that obscured ‘truths’ do exist if the researcher can indirectly bring these truths to the surface, and they may (ultimately) be surfaced and concretely expressed in research (Easterby-Smith et al., 2018, p.65). Second, the viewpoint of ‘relativism’ (of which there are several varieties), assumes ‘many truths’ exist, but that facts remain highly dependent on the viewpoint of the individual observer (p.65). Third, ‘nominalism’ is an ontological viewpoint in which researchers deem objects of study to be creations of the language and meanings that we attach to various phenomena (p.66).

Concerning the research questions posed in this thesis and the type of empirical work required, a tempered form of nominalism is the ontological lens that seems most aligned to the nature of this thesis (Easterby-Smith et al., 2018, p.72), the associated research questions, and the aims of the research. The subjective nature of what is being studied (e.g. lived experiences and identity work related to a professional sense of self) is elusive and tenuous, since the objects of this study deal with a perceived reality drawn from continually evolving human experiences and observations (Driver, 2006). When seeking to engage in a study of professional identity, a researcher attempts to understand processes that humans internalise in an organic form while, in parallel, observing and interpreting outward identities that emerge as the result of a social process that occurs through the interaction of individuals with (and within) groups (Erikson, 1950), such as teams or buyer–seller relationships.

Since the nature of reality concerning the foci of this research might best be understood via a tempered form of nominalism, this raises the question of how understanding of the phenomena being studied, and creation of new knowledge might emerge from this research. Epistemologically, this involves questioning the means of inquiring into the lived experiences and the ‘worlds’ of participant identities within the scope of this research when viewed through a nominalist lens.

3.2.2 Epistemological Alignment: Strong Constructionism and Interpretivism

As with ontology, a researcher has many points along an epistemological spectrum from which to consider methods of inquiry related to gaining understanding of, or creating knowledge about, a subject (Easterby-Smith et al., 2018). The epistemologies of ‘strong positivism’ and ‘positivism’ are closely linked to the ontological views of ‘realism’ and ‘internal realism’, respectively, while ‘constructionism’ and ‘strong constructionism’ align with the ontologies of ‘relativism’ and ‘nominalism’ (p.72; see Figure 3.2).

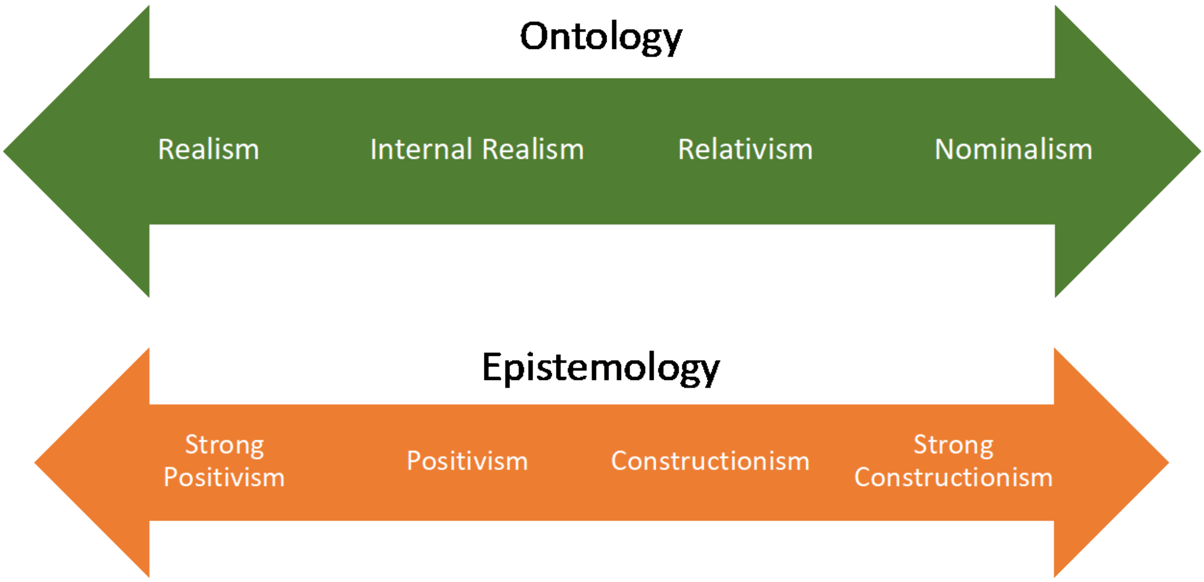

Figure 3.2: Alignment of Ontologies and Epistemologies

Researchers may choose to employ more nuanced epistemological perspectives to allow for different viewpoints from which to adopt a position of ‘inquirer’ (Cunliffe, 2003). For example, interpretivism, hermeneutics, and even structuration theory may represent ways to thread an epistemological ‘needle’ by deploying interpretive frameworks that can adequately align a researcher with a mode of inquiry (e.g. somewhere between an approach of constructionism and strong constructionism; Creswell, 2013; Thorpe & Holt, 2008). Epistemologically, I chose to assume the position of ‘inquirer’ for this study. Therefore, any epistemological position in this study must encourage a nuanced approach to strong constructionism by synchronously implementing the more ‘finely tuned’ lenses of social constructionism or interpretivism. Within the epistemological frame of social constructionism or interpretivism, the researcher is a part of what is being studied and there is a distinctly ‘human’ element to the study (Berger & Luckman, 1966; Easterby-Smith et al., 2018). Social constructionism and interpretivism form a necessary orientation to support the methodologies (especially action research), discussed in Sections 3.3 and 3.5, applied towards understanding and interpreting the research participants’ identity work and role performance in pursuit of actions and answers related to the research questions (Coghlan & Brannick, 2014).

The ability to gather meaningful qualitative data by examining and interpreting the objects of this research represents a vital test of this thesis. Since the objects of the research include SEs’ lived experiences as they construct and perform their professional roles and identities, a further test of this thesis concerns whether or not meaningful insights and actions can be derived and undertaken as a result of the research. These perspectives related to ontology and epistemology served to shape my axiology as well as to inform the qualitative and action research approaches undertaken in this study. The following sections of this chapter cover the axiology and methodology arrayed to support this research.

3.2.3 Axiological Placement and Contribution

Axiology refers to the role played by the values and ethics of individual researchers and participants in approaches to research studies (Saunders, 2019). In all theses and studies, even those starting from a strong positivist viewpoint, researchers bring personal values to their work. Researchers must choose how to deal with these values, including whether to integrate them within the study in some way or to attempt to exclude them (Hiles, 2008). Qualitative studies in which the researcher’s values are integral to topic exploration (e.g. through the application of hermeneutics, phenomenology, or action research) must contain a clear explanation of the researcher’s values and intentionality (Easterby-Smith et al., 2018). According to Creswell (2013), a researcher’s values represent an ‘axiological assumption that characterises qualitative research’ in which researchers lay out their principles and biases alongside the value-laden data gathered in the course of an exploratory study.

When researchers utilise their direct and relevant knowledge or expertise to filter, interpret, and act upon qualitative data related to the research question(s), it is even more critical for researchers to state the values they bring to a study. In these situations, the researcher effectively becomes a co-participant in the study by playing an active role in the inductive or abductive processes of knowledge creation that occur from the ground up as compared to the knowledge extracted using existing theories or conceptual frameworks (Cunliffe, 2003; Easterby-Smith et al., 2018). The researcher's values, potential biases, and placement represent possible challenges in qualitative research that must be recognised and met with sufficient academic rigour. By mitigating these potential challenges, qualitative research in social science can be as empirically sound and rigorous as quantitative methods employed in support of 'pure' research conducted in the natural sciences (Alvesson & Sköldberg, 2009).

There are particular values and biases that I bring to this study. Beginning in the early 1990s, I spent several years operating in the role of 'sales engineer'. Later, I managed sales-engineering teams and, in more recent years, I have managed large sales-engineering organisations in North America and the Asia-Pacific region. I bring specific personal lived experiences and expertise to this study shaped by performing these roles and developing in these identities. My position as a relative 'insider' to the research has further influenced choices made regarding the utilisation of hermeneutic phenomenology and action research in this study (Laverty, 2003).

3.3 Research Methodologies and Approaches – Data Gathering and Action

The research undertaken in support of this thesis utilises a methodologically rigorous qualitative approach to explore and act upon the ways that SEs establish, develop, practice, adapt, navigate, and synthesise their roles and identities as SEs. The lived experiences of a select group of SEs represent the objects of this research. Methodologically the study utilises hermeneutic phenomenology and action research. This section outlines the reasons and justification behind the methodological choices.

The literature related to the individual theoretical foundations that inform this study (e.g. B2B sales, S-D logic, and professional identity) represents a wide variety of ontological, epistemological, and methodological perspectives. However, from an inter-subjective viewpoint, studies of B2B sellers' experiences, the phenomena of value creation in S-D logic, and the subject of professional identity share much more in common with qualitative approaches (McColl-Kennedy & Cheung, 2019). For example, Giddens (1984), though critical of what he calls the 'radical transmutation of hermeneutics and phenomenology', argues that valid approaches to the study of inter-subjective experiences only appear through the application of phenomenology due to the initiation of 'subtle treatments of the nature of practical consciousness' (p.7). Methods for recursively examining experiences that, to a research participant, have become the day-to-day activities of life through the 'routinisation' of actions across time and space, are uniquely placed within the domain of qualitative research (Cunliffe, 2003; Giddens, 1991).

In research utilising quantitative methods, the emphasis is generally placed on empirical studies of objects that are directly observable or measurable in pursuit of answers to questions or tests of hypotheses (Laverty, 2003). However, researchers of identity, interpersonal influence, and the value co-creation process face the challenge that many of the objects of study in these domains are not easily or outwardly observable and must be 'surfaced' through exploratory dialogue with research participants (Giddens, 1984; Vargo et al., 2015). In certain domains, such as psychology or behavioural genetics, it may be possible to isolate particular traits as quantitative units of analysis related to likely gravitation towards professional roles and identities (Plomin, 2018). However, even these creative approaches towards quantification of the research foci do not fit well with the aims of this study or the research questions. Scholars have suggested that when studies place a particular focus on the roles and identities of individual 'actors', or if the study is concerned with the collective identity and role performance of a profession, the best-suited methodologies are those that utilise various phenomenological methods to interpret what is being observed (McColl-Kennedy & Cheung, 2019).

3.3.1 Phenomenological Foundations

Studies that exhibit certain characteristics may encourage researchers to choose phenomenology as the preferred methodological pathway (Saunders, 2019). Specifically, a researcher may conclude that characteristics of the object(s) of the research, such as experiences related to professional identity development or adaptation, might be best explored using methods associated with phenomenology (see Figure 3.3). For example, phenomenology often offers a good 'fit' when the research objects include individuals who have a shared experience with the phenomena being explored (Vagle, 2016). This type of phenomenological research requires gathering data that are generally gleaned from interviews or exploration and then systematically analysed in a search for thematic elements that emphasise both *what* participants have experienced and *how* they have experienced these phenomena. Throughout any research of this nature that is informed by phenomenology, a philosophical dialogue occurs regarding ideas related to the meaning assigned with any lived experiences in the exploration (Peoples, 2020). As a part of this dialogue, the researcher admits and discusses the axiological values (and biases) that the researcher, as 'inquirer', brings to the study (Tatano Beck, 2020).

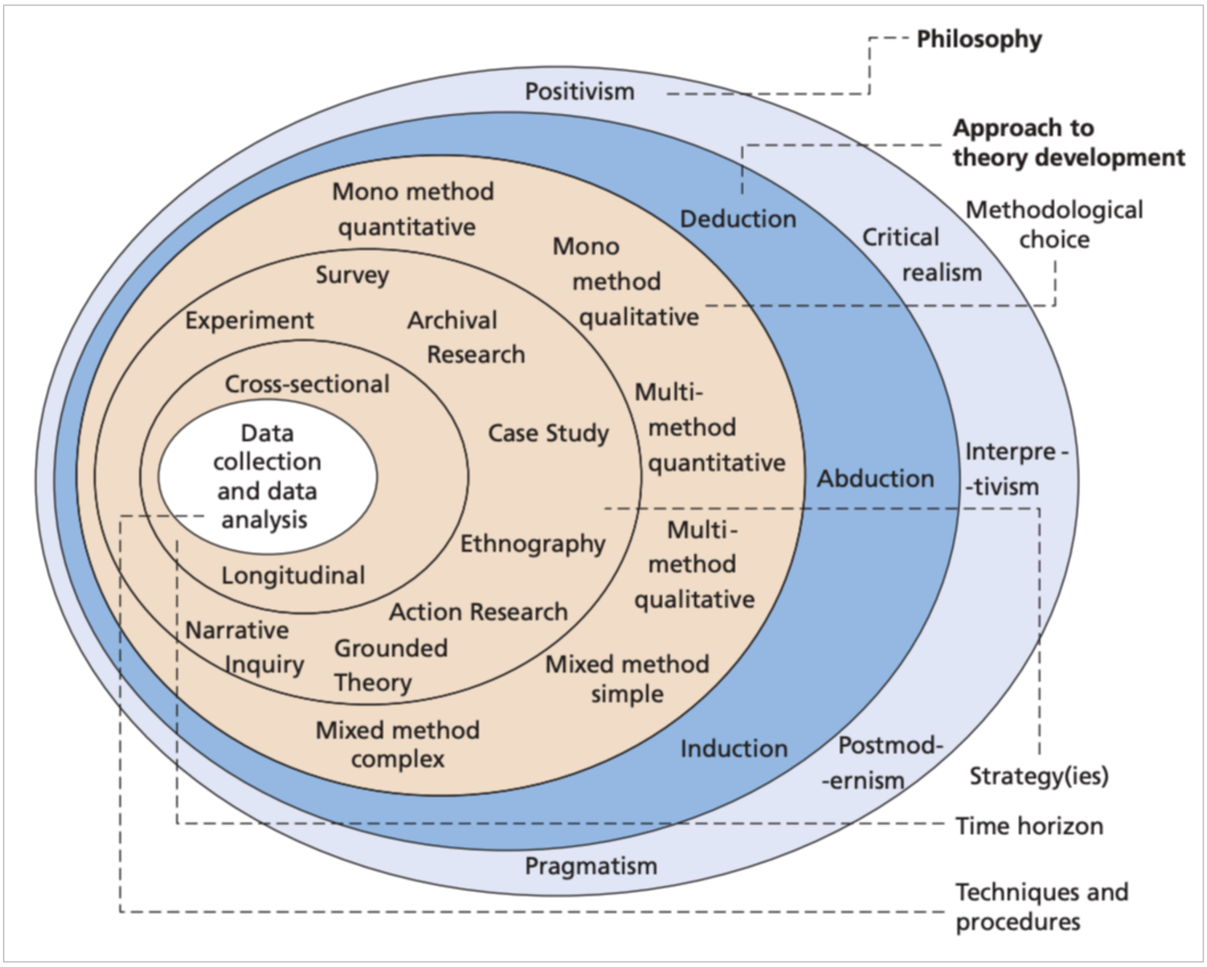

Figure 3.3: The 'Research Onion' (from Saunders, 2019)

Phenomenology comprises a methodology that is fundamentally an exploration of lived experiences in the 'lifeworld' (Tatano Beck, 2020; van Manen, 1997). The foci here concern the narrower lived experiences of individuals, and not the broader world as an independent reality detached from the individualised self (Laverty, 2003). A phenomenological inquiry is concerned with the question, 'What is this experience like?' This question seeks to unveil meanings from experiences as they occur in everyday life and to use reflexivity to encourage understanding regarding experiences that are typically 'taken for granted' (Tatano Beck, 2020). By reflecting on the individual experience, individuals and researchers encounter the opportunity to uncover new or forgotten meanings from within experiences.

Lusch and Vargo (2019) posit that the co-creation of value through the application of S-D logic is always phenomenologically determined. The determination of value through actor-to-actor engagement occurs as a part of lived experiences and perspectives that are comprehended by the actors who engage one another in the value co-creation process (Helkkula, 2012). In turn, these actors' inter-subjective experiences inspire reflexivity, sensemaking, and meaning-making (Smith, 2007).

Berger and Luckman (1966) point to phenomenological analysis as the methodology best suited to understanding the 'foundations of knowledge in everyday life' (p.19). In this way, analysis of individuals' subjective experiences involves empirical approaches wherein researchers refrain from hypotheses regarding experiences and instead seek interpretation from within the experiences. In this sense, the nature of the lived experience (i.e. the phenomenology) must be interpreted by methodologically examining the 'texts of life' (i.e. using hermeneutics; van Manen, 1990, p.4). In this type of research, a narrative may relate to the experiences of a single individual, but a phenomenological study more commonly allows the interpretation of shared meanings by deciphering the lived experiences of several individuals (Tatano Beck, 2020). Studies of this sort contain data consisting of the 'objects' of the lived experiences (the phenomena), which are reduced to generalisable descriptions using hermeneutical approaches to interpret 'what' the individuals experienced and 'how' (Moustakas, 1994).

The 'phenomenology of practice' (van Manen, 2016) is a line of inquiry that engages the practices of professionals even in the context of activities that might be considered 'mundane' or 'run of the mill', but which may also represent sources of thoughtful understanding regarding the object of a study. Undertaking a phenomenology of practice necessitates activating reflection *on* practice and *within* practice jointly for participants and researchers (p.15). Phenomenology 'gravitates towards meaning and reflectivity' in the pursuit of 'lived' meaning in the human world, prompting the researcher to adopt an empathetic and cooperative stance within the study (p.17). Research in professional fields tends to be context-sensitive, and as such, a phenomenology of practice is especially relevant to studies that involve a high degree of thoughtful consideration and understanding by both the research participant and the researcher (p.18).

3.3.2 Hermeneutic Phenomenology's Roots and Orientation

Husserl (1859–1938), often referred to in the literature as the modern 'father of phenomenology' (Laverty, 2003; van Manen, 2016), viewed the phenomenological method as a way to reach into the meaning of reality that arises from individual experience. Husserl further viewed phenomenology as a means to gain insight into individual consciousness and the 'dialogue' undertaken between an individual and society. An exploration of the ways that individuals experience phenomena, and how the interaction between individuals and society further shapes meaning, is highly relevant to this research study.

Martin Heidegger (1889–1976), considered the 'father' of hermeneutic phenomenology (Peoples, 2020), portrayed hermeneutic phenomenology as a method that is separate and distinct from phenomenology (Laverty, 2003). Hermeneutic phenomenology, like phenomenology, concerns the lived experiences of humans in the 'real world', but the focus in hermeneutic phenomenology concerns 'illuminating details' from within 'everyday life' and interpreting meaning and understanding from these experiences (Wilson & Hutchinson, 1991). Whereas Husserl was concerned with developing an understanding of the phenomena under study, Heidegger extended this approach by introducing a focus on *Dasein*, which translates to 'the mode of being human' or the 'situated meaning of a human in the world' (Laverty, 2003). Even more simply, *Dasein* means 'being there' in the midst of the experience. In this sense, researchers understand phenomena in the context of the world and society, and not as separate objects of abstract study. Individuals derive situated meaning from these experiences through the interpretation of reality as it is understood by those individuals from within their lived experiences (Alvesson & Sköldberg, 2009).

Heidegger claimed that a researcher could not understand a phenomenon without relating to the 'historicality' of an individual (i.e. culture, self, identity, societal interaction, and historical influences; Laverty, 2003). Therefore, hermeneutic phenomenology describes a method of research that interprets lived experiences in the context of human activity and interaction with society (Alvesson & Sköldberg, 2009). The data in these studies are always relative to the contexts of the participants' experiences. Furthermore, contextualising experiences allows encourages development of meaning and 'sense' out of what might (at first) seem to be ambiguous 'pictures' or disjointed puzzle pieces (p.6).

Researchers who apply methods of hermeneutic phenomenology develop and implement what is known as a Hermeneutic Circle (see Figure 3.4; Tatano Beck, 2020), which conceptualises the research process as a repeating cycle. Here, phenomenological data are gathered and contextualised before noting observations and interpretations related to the ‘parts’ of the phenomena. Hermeneutic phenomenology encourages the use of actions by both researcher and participant to deepen understanding of phenomena. Within the cycle, reflection encourages a reconsideration of biases and preconceived ideas. The Hermeneutic Circle is complete when the researcher integrates examination and interpretations back into the research process, thereby becoming a co-participant in the research.

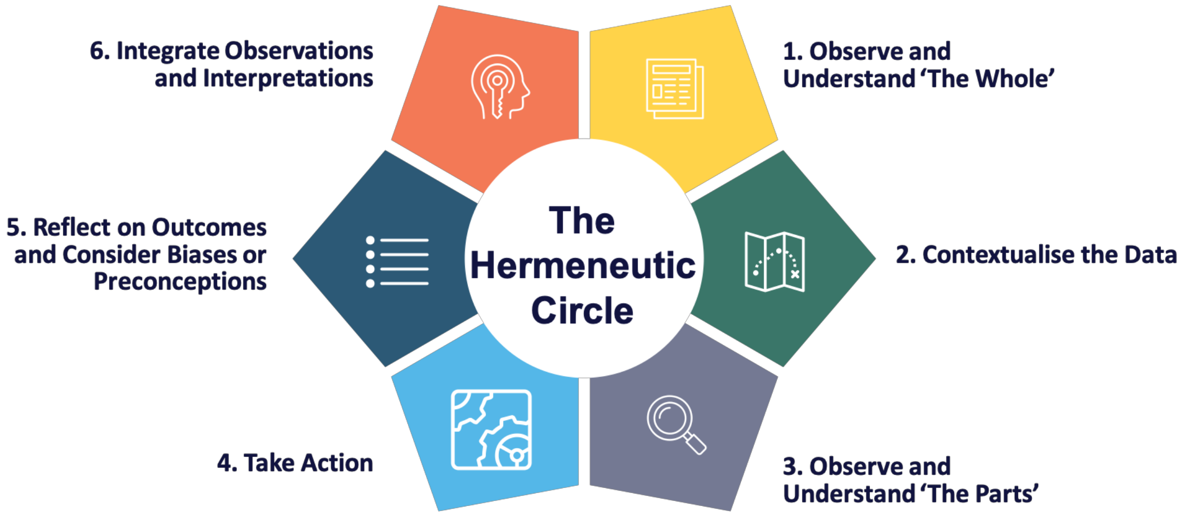

Figure 3.4: The Hermeneutic Circle Outlined for and Applied in this Study

This thesis phenomenologically centres on the ‘what’ and ‘how’ of SEs’ professional identity development and adaptation. This inquiry seeks to discover, describe, influence, and interpret rather than predict or measure these phenomena. By understanding the ‘what’ and ‘how’ of SEs’ professional identity development and adaptation, SEs and their managers will have the opportunity to assume greater control of their individual and collective performance and outcomes. Accordingly, the research, research questions, and aim of this study best fit methods that utilise hermeneutic (i.e. interpretive) phenomenology (i.e. lived experiences), coupled with action research, to explore the ‘worlds’ of the research participants.

3.4 Research Design and Execution for this Study

The research participants in this study come from groups of SEs and sales-engineering managers in the Singapore regional offices of three Silicon Valley headquartered companies. These organisations each offer software, computing infrastructure, networking, digital services, and cybersecurity solutions. The Singapore offices of these companies serve as the headquarters for the organisations' Asia-Pacific regional operations. In each of these three organisations, internal sponsors for this study granted me access to SEs in the organisations based on prior work relationships and experiences. I was known to each of the sponsors and a number of the participants through previous consulting engagements. Each research participant is a current or former SE with at least five years of sales-engineering experience in B2B selling environments.

3.4.1 Participant Sampling and Data Collection in this Research

Random sampling is not typical in hermeneutic phenomenology (Peoples, 2020). The literature on the application of hermeneutic phenomenology presents arguments against the use of random sampling if a study intends to gain in-depth information regarding the phenomenology of a particular experience (van Manen, 2016). Sample sizes can vary in studies utilising hermeneutic phenomenology and are dependent upon the richness of the narratives and the number of times that instances of the phenomena appear within the participants' descriptions of their lived experiences (Cohen et al., 2000).

The sponsors from the organisations involved in this study offered advice and guidance concerning which prospective participants possessed a breadth and mix of experiences to bring richness and depth to this study. Out of a total possible pool of roughly 150 potential participants, eight individuals were initially selected from the participating organisations and invited to participate in the research. Later, additional participants beyond the first eight were invited to participate in order to reach a higher level of saturation within and across the data that was collected, coded, analysed, and categorised for this study.

Participants were selected using a purposive sampling approach, resulting in the selection of the eight initial participants. Subsequently, 10 additional individuals were invited to be a part of the study bringing the total number of research participants to 18. At the time of the data collection, research participants possessed an average of 19 years of overall work experience and an average of 13 years of SE-related experience (see Table 3.1). Of the 18 participants, 12 were known to me through previous consulting projects. Six participants only became known to the me as a result of this study.

The first stage of the research featured 90-minute guided interviews as a means of initial data gathering. I conducted these interviews with individuals in private, quiet areas such as conference rooms. Interviews and subsequent action research engagements occurred face to face whenever possible or through the use of the Zoom video-conferencing platform (Zoom Video Communications, 2019) if a face-to-face meeting was not possible. I presented open-ended questions to begin and guide the interviews. These questions encouraged reflexive responses concerning the participants' related work-life experiences.

Participant Information											
Participant Identifier	Company	Pseudonym	Age	Years of Industry Experience	Years of SE Experience	Gender	Current Role	Education Level	Education	Technical Education	Sales Education
SE01	A	Alvin	46	21	10	Male	SE	Secondary Education	General	Self-Taught	Hospitality Sales
SE02	A	Bob	41	19	17	Male	SE	University (BS)	Engineering	Electrical Engineering	On the Job
SE03	A	Christopher	36	16	12	Male	SE	University (MSc)	Biology/Engineering	Engineering	On the Job
SE04	A	David	35	13	5	Male	SE	University (BS)	Computer Science	Networking	On the Job
SE05	A	Elton	43	19	15	Male	SE	University (MSc)	Maths/Comp Science	Networking	On the Job
SE06	A	Fred	40	18	15	Male	SE	Secondary Education	General	Self-Taught	Customer Service
SE07	B	Grant	38	15	15	Male	SE	University (BS)	Computer Science	Software Development	On the Job
SE08	B	Harold	51	25	18	Male	SE	University (BS)	Business	Self-Taught	Retail Sales
SE09	C	Ian	52	23	12	Male	SE / Team Lead	University (BA)	Music Education	Self-Taught	On the Job
SE10	B	Jonathan	44	19	8	Male	SE Manager	University (BS)	Business	Self-Taught	Distribution Sales
SE11	B	Kelvin	42	18	16	Male	SE / Team Lead	University (BS)	Computer Science	Electrical Engineering	On the Job
SE12	B	Lawrence	47	24	15	Male	SE / Team Lead	University (MSc)	Computer Science	Engineering	On the Job
SE13	B	Michael	41	18	12	Male	SE / Team Lead	University (MSc)	Computer Science	Engineering	On the Job
SE14	C	Nick	48	26	18	Male	SE / Team Lead	University (BS)	Computer Science	Engineering	On the Job
SE15	C	Oliver	45	22	17	Male	SE / Team Lead	University (BS)	Computer Science	Networking	On the Job
SE16	C	Priscilla	45	13	8	Female	SE	University (BA)	Philosophy	Self-Taught	Telesales
SE17	C	Quentin	38	16	5	Male	SE / Team Lead	University (BS)	Business	Self-Taught	Distribution Sales
SE18	C	Robert	47	19	11	Male	SE Manager	University (MSc)	Computer Science	Software Development	On the Job

Table 3.1: Participant Demographic Information

Participants were encouraged to follow their thoughts and points through to completion. As such, the conversations were free-flowing, although I endeavoured to guide participants back to the questions and topics central to the study. The guiding questions from the research encouraged participants to express their own experiences, values, motivations, conflicts, and interests related to the roles and identities of SEs.

3.4.2 Guiding Questions to Encourage Participants' Work-Life Narratives

The goal of the questions utilised to gather data from the participants was to encourage open dialogue in which experiences relevant to the roles and identities of sales engineering, and any meanings ascribed to those experiences, could be explored as a guided work-life narrative. Use of these questions encouraged reflection on participants' lived experiences and exploration related to establishment, development, and practice of their roles and identities as practising SEs.

To this end, participants were asked to reflect on or describe their experiences related to the following questions:

- How, when, and why did you first become an SE?
- How did you become who you are today as a professional?
- What does it mean for you to 'be' an SE?
- What is it like for you to perform the role of an SE?
- As an SE, how do you see yourself?
- How do you believe others view you in the role of SE?
- How would you describe your 'technical' experiences as an SE?
- How would you describe your 'sales' experiences as an SE?
- What is it like for you to be both 'technical' and 'sales' at the same time?

3.4.3 Initial Validation of the Data and Early Findings

Two research participants from the first round of interviews (SE01 and SE02, Alvin and Bob; see Table 3.1) assisted in testing the validity of the guiding questions, the research questions, and the data gathering process. Initial interviews with Alvin and Bob occurred before interviews were scheduled with any additional participants. The initial interviews with Alvin and Bob were transcribed, and the data were subsequently analysed using a thematic coding approach. I then shared the initial themes and findings with the two early participants. Alvin and Bob were asked if they generally agreed with the observations and interpretations drawn from their work-life experiences. Alvin and Bob were also shown the research questions and asked to provide their views on the relevance of the initial data toward answering these research questions. Both participants agreed that the observations and interpretations of their lived experiences adequately represented what they sought to convey during their interviews and that the findings might be used to answer the research questions. Later, interviews with the remaining six individuals initially selected to participate in the study occurred in relatively quick succession. Approximately two weeks after the completion of the first round of interviews with SE01–SE08, 10 additional individuals were invited to participate in this study as a means of increasing richness, completeness, and 'saturation' across and within the thematic elements beyond the first data gathered in support of the research.

3.4.4 Audio Recording and Electronic Notes as Tools in the Research

Each interview was recorded using two methods for backup and redundancy. Zoom video conferencing (Zoom Video Communications, 2019) was employed to capture all of the interviews, including those that were held face to face. Recordings were also simultaneously captured through the use of an Apple iPad application called AudioNote (Luminant Software, 2019). Zoom represents a widely used conferencing platform that allows for easy recording, archiving, exporting, and transcription of audio recordings. Meanwhile, the AudioNote application allows interviewers to make time-stamped margin notes linked to specific points of time in audio recordings. These links in the margin notes allow researchers to 'jump' to specific points in the audio recording as hyperlinks from their notes. Use of these recording tools allowed me to actively listen to the research participants and focus on engagement within participants' 'stories', their lived experiences, the work-life narrative, and the interpretation of those experiences instead of primarily focussing on taking notes.

3.5 Action Research Undertaken During the Study

Action research encompasses work-based interventions useful in building heightened awareness of assumptions that underpin attitudes and behaviours (McNiff & Whitehead, 2009). This approach enables assumptions and behaviours that might not have been subjected to critical examination in the past to be questioned and tested through dialogue and subsequent recursive actions (Argyris, 1996; Trehan & Rigg, 2015). The use of action research in this study allowed explorations, interpretations, and conceptualisations that emerged from the data to be tested or applied through reflection, questioning, coaching, and training. Participants were encouraged to engage in a thoughtful re-examination of their lived experiences, critically reflect on these lived experiences, and use double-loop learning (Argyris & Schön, 1978) as a means to create new knowledge from those lived experiences. Further recursive actions helped to clarify interpretations of participant experiences for both the research participants and me. This collaborative engagement using action research with the participants served as a catalyst for knowledge creation and transformation of elements of practice.

Double-loop learning (Argyris & Schön, 1974) emerged in the post-interview action research engagements with participants. Double-loop learning enables active and deliberate questioning of existing perspectives and interpretations (Argyris, 1977). In further engagements with six of the research participants, discussions and actions subsequently allowed 'triple-loop learning' to emerge, whereby foundational assumptions and underlying practices were fundamentally challenged (Anderson et al., 2015) by the participants.

The use of action research encouraged reflection and actions related to conceptual frameworks and practical theories-in-use that surfaced as a part of my engagement with participants (Eng & Dholakia, 2019). The action research utilised within this study allowed participants to personalise and modify tactics and strategies (Revans, 2011) connected to their own approaches to role and identity development, practice, adaptation, conflict, and synthesis. This type of action research allowed participants to operate as collaborators through questions raised, reflections undertaken, and new perspectives considered in the creation of new knowledge through this study (Reason & Bradbury, 2008).

The cycle of action research applied to this study served to encourage abductive reasoning through the process of participant activities undertaken in conjunction with this research and encouraged the emergence of further insights through participant reflection on these actions (Anderson et al., 2015; Pedler, 2008). The action research approaches in this study benefitted both the participants and me by focussing on desired changes at the level of the individual and 'the system' (Coghlan & Brannick, 2014). By allowing the research to proceed through iterations within a cycle of action research focussed on real-world challenges in their roles (Trehan & Rigg, 2015), participants began to consider and act upon new approaches to role performance and identity work.

In a revealing ‘aha moment’, one of the participants (Alvin, SE09) noted that, through the process of action research and the mutual benefit that emerged for both the participants and me, they caught a glimpse of an example of how ‘value co-creation’ might be experienced by parties from different organisations through a social exchange (Lusch & Vargo, 2019). Later in the research cycle, when reflecting upon this participant’s insight regarding the nature of action research, his conclusions appeared unsurprising, since action research is (methodologically) an approach centred on the use of collaborative action(s) to promote positive, value-laden change (Eng & Dholakia, 2019; Greenwood & Levin, 2007; Raelin, 2003).

3.6 Analysis of the Qualitative Data Gathered in the Research

Each recording of the participant discussions was first exported from the Zoom platform (Zoom Video Communications, 2019) and AudioNote application (Luminant Software, 2019), after which the recordings were transcribed using the Trint software platform (Trint Ltd., 2019). The initial transcriptions of the recorded interviews were then reviewed for accuracy and corrected where necessary before being exported from Trint into Microsoft Word. Each transcript was read through twice from beginning to end while simultaneously listening to the original audio in order to encourage further reflection through ‘immersion’ within participant descriptions of their lived experiences. Reading the transcripts in this immersive fashion allowed me to undertake further examinations and interpretations by capturing additional notations.

The corrected and fully annotated versions of these transcripts were then saved as a series of Microsoft Word documents containing each participant’s unique identifier (SE01–SE18; see Table 3.1), basic demographic information, and the guiding research questions. Each of the Microsoft Word documents—including demographics, research questions, transcripts, and notes—were then imported into the Dedoose (SocioCultural Research Consultants, 2019) computer-assisted qualitative data analysis software platform to code excerpts in order to analyse and categorise the interview data (i.e. the transcripts). This computer-aided analysis further enabled documentation, coding, visualisation, and thematic clustering of the participants’ lived experiences via identified patterns, themes, and additional qualitative data.

Transcripts of the various interviews and conversations undertaken in this study served as a rich source of data in support of research related to the thesis. Appendix B and C of this work offer samples of annotated and coded (anonymised) transcripts. The final transcripts contain a total of 259,429 words. The average length of each transcript, including both participant interviews and follow-up sessions, is 14,413 words. The qualitative data, including quotes from participant interviews, are outlined in summarised formats in Chapter 4. Chapter 5 provides detailed discussions and interpretation of the findings and research outcomes.

3.7 Internal and External Validation of the Data and Findings

Approaches for internally and externally validating research are crucial in a qualitative study (Alvesson & Sköldberg, 2009). Internal validation answers 'whether the study investigates what it means to investigate' (Malterud, 2001, p.483). External validation, meanwhile, refers to the transferability of the study's findings and whether or not barriers to transferability exist beyond the core context in which the study was conducted (p.484).

The approach towards internal validation of this study involves the use of 'triangulation' through the assessment of different 'angles' or perspectives to validate the same (or highly similar) experiences and insights between participants (Easterby-Smith et al., 2018). Furthermore, this study also utilises respondent validation by asking participants to reflect, comment, and build upon (or correct) levels of understanding and impressions as a part of the cycle of action research. The preliminary use of triangulation and respondent validation occurred after the first two pilot interviews. Application of these approaches to internal validation continued during and after each subsequent interview with the research participants and through the cycle of action research.

Since external validation refers to transferability and replicability, the action research portion of this study proved useful. Through cycles of reflection and recursive action, participant feedback was readily available concerning this study's usefulness, transferability, and replicability into the 'real world' of the SEs and their managers. These follow-up conversations with participants took the form of collaborative discussions in which I shared findings, insights, conceptualisations, and recommendations with the participants. Participants then added to my knowledge by providing positive or corrective feedback and real-world examples. Participants reflected on the findings emerging from the research (e.g.

thematic insights, recommended actions, implications for the practice of sales engineering). Participants were then encouraged to consider where and how any of these insights might be applied in their work with internal stakeholders or with customers and then to reflect further on the results, implications, and outcomes of the application of recommendations or insights.

My frames of reference from practice and conceptualisations that emerged in the early stages of the research were refined and reshaped as a result of new insights gleaned via the participants' ongoing actions with their stakeholders and buyers. Participants had the opportunity to test and validate findings via the approaches of coaching, training, reflection, and application through actions within their organisations as well as with various stakeholders (e.g. managers and customers). For example, insights, ideas, and approaches related to professional identity construction and adaptation that appeared within the participants' career-life narratives in the early stages of the research evolved into conceptualisations and frameworks that participants could then test through actions undertaken 'in the field'. In this study, as a part of the action research cycle, 12 participants re-engaged in one follow-up coaching conversation with me while six participants further re-engaged in two follow-up conversations.

When using qualitative research, especially research seeking to interpret the phenomena being studied through significantly numerous or lengthy interviews or narratives, internal and external validation can be challenging (Peoples, 2020). However, relevant examples of validated phenomenological research approaches proved readily available (e.g. Alvesson & Sköldberg, 2009; Malterud, 2001; van Manen, 2016). Each decision related to my orientation to the research featured consequences that cascaded through the entire study:

- The right number and quality of participants to provide useful data
- A sufficiently high volume of qualitative data deemed to be relevant
- Rigorous approaches to internal and external validation of the qualitative data
- Approaches to the data that are academically exacting

By reflecting upon the importance of each of these areas related to the study's validity, the importance of researching, critically considering, and thoughtfully choosing the best fit for each step in the methodological 'roadmap' became clear (Easterby-Smith et al., 2018).

3.8 Ethical Considerations Towards the Research Participants

It is always essential to carefully consider any ethical questions related to research participants (Creswell, 2013). Research projects conducted as a part of programmes at the University of Liverpool are no exception and ethical approval of a study is required before gathering data. When working with human participants in a research study, researchers must ensure consistent approaches related to the duty of care for participants. This section summarises steps undertaken in the ethics approval process and critical protections implemented as a part of this study. The ethics approval for this study appears in Appendix A.

The ethics application process involved submitting several drafts of various forms, such as the Online Ethics Application Form, the Full Ethics Application Form, a Participant Information Sheet, a Participant Consent Form, and an Ethics Response Form. The Ethics Response Form outlines the approach towards ethical considerations concerning the study as well as responses to various questions and items of feedback from the university's DBA Ethics Committee.

After a discussion covering the Participant Information Sheet at the beginning of each interview, I obtained informed consent from the research participants. I further confirmed that each participant understood that all data gathered in support of the study would remain encrypted and securely stored within the Republic of Singapore at the completion of the study, as described in the Participant Information Sheet.

The various tools and technologies utilised for gathering, analysing, and storing data all employ strong password protection and encryption. Access to all digital copies of the research is only possible using devices that also use strong password protection, fingerprint or facial recognition, and encryption. These devices are physically secured in my home office.

Participant data, including direct quotations, have been anonymised in the thesis write-up to ensure that individual participants, customers, stakeholders, managers, and organisations are not identifiable in the data that is a part of this thesis. As a precaution, private, confidential, proprietary, or personal information was masked in the data. The proprietary nature of any information shared in the interview has been respected. Participant's company names, the names of managers or leaders, customer names or circumstances, any other identifying names, company names, or other details that might be traceable back to the participant have all been anonymised or masked. The confidentiality of individual responses to questions as a part of the interviews and interactions related to this research has been rigorously maintained. As such, individual responses have not been shared with any participating or sponsoring managers or stakeholders.

I am also a practising consultant who is often engaged by organisations to offer advice, coaching, and training to sales-engineering teams. In the past, the organisations participating in this research contracted with me for consulting and training. However, no known conflicts of interest exist (e.g. existing consulting engagements or situations in which I had direct or implied management authority or relationships with participants). Safeguards and processes were utilised to ensure that no conflicts of interest occurred. As outlined in the Participant Information Sheet, prospective participants were under no pressure to participate in this study based on any past engagements or relationships that participants or their manager(s) might have had with me.

3.9 Conclusion

Hermeneutic phenomenology and action research were deemed the best methodological 'fit' to explore the participants' lived experiences related to the role of the SE, the growing attention paid to S-D logic, and professional roles and identities. Guiding questions are employed to encourage participants to share detailed descriptions of their career-life narratives as lived experiences related to the core areas of research and to illuminate these experiences as objects to be explored, considered, and interpreted. Furthermore, the utilisation of action research allowed conceptualisations and frameworks to be practically tested and validated by participants and examined through further dialogue and recursive action.

Ontologically, this study adopts a nominalist viewpoint. Nominalism describes a point of view wherein researchers deem objects of study to be creations of the language and meanings that we attach to various phenomena (Easterby-Smith et al., 2018). Considering the nature of the research questions that guide this study and the type of empirical examination required, nominalism comprises the ontological lens that is most aligned to the nature of this thesis, the associated research questions, and the aims of the research. For example, while this research seeks to abstract and conceptualise common themes and categories of knowledge, behaviours, and outcomes from the roles and identities of practising SEs, each participant brings uniquely personal work-life experiences to the study. In the context of this study, these work-life experiences may be best understood as subjective realities. Therefore, the data gathered as a part of the research are best examined from a nominalist perspective in order to contextualise meaning from within the research participants' identity work and professional practices.

Epistemologically, an inquiry into participants' lived experiences, *Dasein,* and 'worlds' must support an empirical study of subjective realities in order to interpret and illuminate insights that are relevant and pertinent to the study. Furthermore, any methodology used to explore participants' lived experiences also needs to complement the theoretical frameworks that support the research. To this end, S-D logic and structuration theory represent two of the critical midrange theories utilised in this study. Both of these theoretical frameworks are often associated with research studies that apply phenomenological methodologies and action research. For these reasons, this study also utilises methods of hermeneutic phenomenology and action research.

In the broadest sense, phenomenology describes a philosophy of the human experience in which the essential nature of any experience is explored with the aim of interpreting the 'essence' of a phenomenon (Smith, 2008). Hermeneutics (from the Greek, meaning 'interpretation') comprises a philosophy of understanding that, when deployed in the study of phenomena, encourages continuous discovery and interpretation, since an understanding of human behaviour and experience will always be incomplete (Knight, 2019). In this study, hermeneutic phenomenology is deployed as a method for reflection and interpretation to make sense of and explain the individual work-life experiences (i.e. the phenomena) of the study's research participants.

Action research has also been utilised in this study to encourage reflection, understanding, and impact within the research participants' lived experiences. Through application of action research, the experiences of the research participants are not merely explored, catalogued, and interpreted as fixed data. Rather, these experiences are treated as active data that can be refined through further examination and consideration by means of collaborative discussion and action. Collaboration with, and through, the research data in partnership with participants serves to clarify the study's findings and uncover new data and interpretations.

Chapter 3 described how the research methodologies utilised in this study support the overall objectives of the thesis and that a clear through-line exists moving from ontology to epistemology, axiology, the methodologies, approaches, design, execution, analysis, validation, and ethical considerations of this research. In Chapter 4, the orientations and approaches discussed in this chapter are applied by engaging a group of research participants utilising methods of hermeneutic phenomenology and action research. The participants' lived experiences are examined through the use of career-life narratives and subsequent actions.

Chapter 4: Research Findings

4.0 Introduction to the Research Findings

Chapter 4 contains this study's research findings, drawn from qualitative data that were collected and analysed utilising methods adapted from hermeneutic phenomenology and action research. The phenomena explored in this research originate from engagements, actions, and interpretations within the first round of participant interviews, post-action reviews, and subsequent follow-up discussions.

As outlined in Chapter 3, relevant and significant qualitative data in the form of interview transcripts were captured, coded, categorised, and analysed thematically. Research participants included 18 individuals from three organisations: 16 practising sales engineers (SEs) and two former SEs who are now sales-engineering managers (see Table 4.1). During subsequent discussions, I engaged participants to further explore role-related phenomena using action research primarily by means of coaching and reflection. The initial interviews and subsequent discussions with participants employed questioning and reflexivity concerning the participants' lived experiences and the results of actions undertaken. Chapter 5 contains discussions, analyses, interpretations, and outcomes from the research findings covered in Chapter 4.

This chapter introduces the reader to the research data via the lived experiences of the research participants. These lived experiences were captured in transcripts and annotations of interviews and follow-up discussions with participants. Throughout this chapter, lived experiences are presented in the 'voices' of the participants. These current and former SEs recall experiences that have shaped who they *are* and what they are *becoming* in their roles and identities as SEs. The reader is provided with representative experiences and actions from within the participants' career-life narratives and follow-up discussions. Later, in Section 4.3 and throughout Chapter 5, these research findings are discussed topically and thematically through a conceptualisation and interpretation of 'what it is like' to be an SE (i.e. the SE lived experiences or *Dasein*) in pursuit of answers to the research questions that have informed this study.

4.0.1 Data Collected in Support of the Research

Guiding questions (see Section 3.4.2) were deployed to encourage participants to recall relevant lived experiences from their careers as SEs. Participants were interviewed individually and then re-engaged on up to two additional occasions for action-oriented or follow-up coaching discussions over a 10-week period following the initial interviews (as detailed in Chapter 3). These follow-up discussions utilised action research to explore questions and problems related to role performance or identity work in the sales engineering practices of the participants.

A total of 42 recordings with the 18 participants were captured over a 10-week period. The majority of the raw data came from initial interviews with participants since these were 90-minutes in length. Follow-up discussions with participants averaged 25-minutes in length. The data from each interview were organised and catalogued by sponsoring company (i.e. Company A, B, or C), interviewee (i.e. SE01 through SE 18), and individual interview or session number.

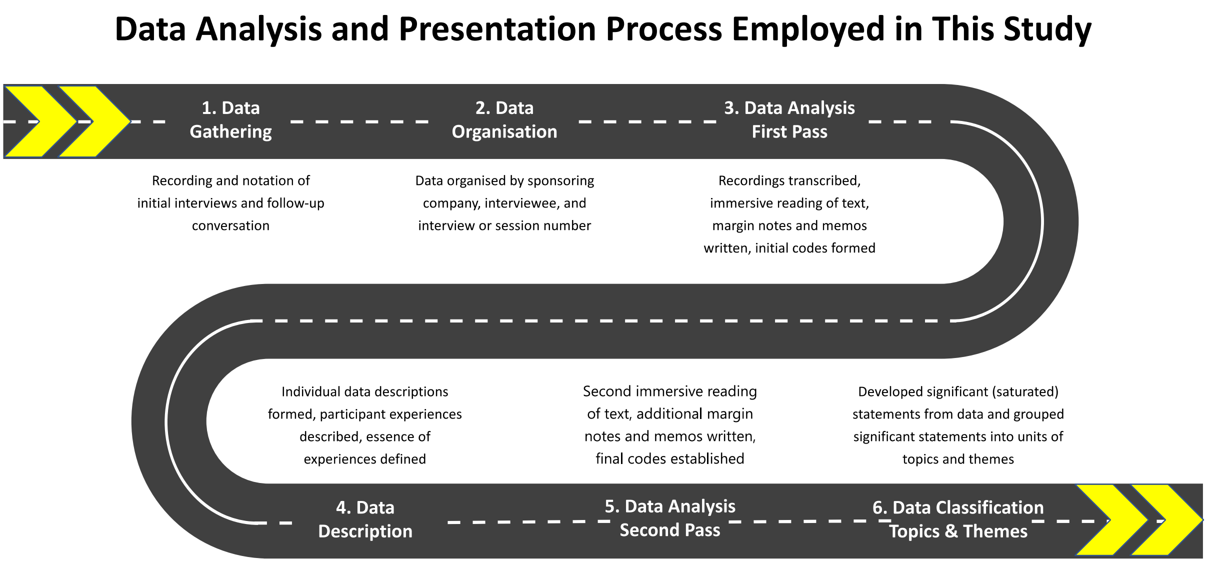

Figure 4.1: The Data Analysis and Presentation Process Employed in This Study

The transcripts of each interview or follow-up discussion constituted the raw data from which participants' lived experiences—the phenomena under examination—were analysed through the application of the hermeneutic circle described in Chapter 3 (see Figure 3.4). My strategy towards data analysis was informed by Saldaña's (2015) guidance for qualitative analysis that involves an immersive ‘engagement’ with the data (see Figure 4.1). This engagement involves becoming familiar with all available data through immersive reading and by reflecting upon observations drawn from the data through the use of writing as a reflexive exercise. Through this process of reflection and sensemaking, my strategy was to apply open coding to create some initial ‘order’ or structure to the data. Once the first cycle of coding had been completed, I was then in a position to uncover patterns from within the data by looking for frequency, sequences, similarities, differences, and saturation in the data (Easterby-Smith et al., 2018).

After the initial process of conceptualising the data, I was then in a position to re-engage with the data through a second round of immersion in the data and across the initial codes. It was here that I embarked upon a process of re-coding the data into more focussed topics and themes (Saldaña, 2015). At this stage of the research, I was able to analyse linkages between re-coded data and (using an abductive approach to engagement with the data) draft hypotheses concerning the patterns of saturation that emerged topically and thematically from within the re-coded information (Creswell, 2013).

To analyse the data, I employed a process of immersive reading that involved listening to the recordings of participant engagements while simultaneously reading the transcripts of those recordings, then writing additional observations (Saldaña, 2015). After this first pass of data analysis, I drafted initial descriptions of the data under analysis—the participants’ experiences—and defined the essence of those experiences (Creswell, 2013). Initial coding was undertaken within the transcripts of participant sessions to abstract and cluster key excerpts of discussions. A second pass of immersive reading allowed the definitions and descriptions of the participants’ experiences to be organised into a final coding framework. These significant statements (i.e. where saturation was evident) were then grouped into units of analysis (i.e. topics and themes) that have allowed hypotheses related to the SE role performance and identity construction to emerge. The representation of this analysis along with the presentation of the topics and themes are discussed in Section 4.3 of this chapter.

4.0.2 The Action Research Process and Framework

In order to address the management problem and answer the research questions from a practical perspective, this study has utilised a cycle of action research with the participating SEs (see Figure 4.2). The challenge of developing SEs to a sufficiently high level of skill in both the technical and sales aspects of their role is represented in the literature (e.g. Darr, 2015; Dean et al., 2017) and was validated through the initial research conducted in support of this study. Managers in B2B organisations realise that the complexity of co-creating value in business today requires a coordinated response to increasingly technicised approaches to buyer engagement (Alamäki & Kaski, 2015). This synchronisation demands various levels of interdependence and balance for the SE (e.g. Bumblauskas et al., 2017), including 1) complimenting the efforts of other sales team members; 2) delivering both business and technical outcomes; and 3) synthesising sales and engineering roles and identities. It was in these areas that participants were invited to take action.

In the action research cycle applied in this study, several steps were undertaken (see Figure 4.2):

1. Context was gathered from the initial research (see Figure 4.1).
2. This context informed the action planning (e.g. actions, engagement).
3. Action was taken in the form of coaching and further participant discussion.
4. These approaches and outcomes were discussed with participants.
5. The implications of the actions were captured as additional data.

This cycle of action research was applied so that participating SEs had the opportunity to consider and sharpen the interpreted meaning behind their own lived experiences. These acts of reflection provided context to the personal development of knowledge, skills, behaviours, and outcomes necessary to effectively construct and perform the identities and roles of the SE.

The actions undertaken in this study included introducing participants to relevant concepts from the literature (e.g. S-D logic) alongside actions of exploration, reflection, and interpretation related to the participants' lived experiences that are summarised in this chapter. By providing the opportunity for participants to reflect upon their own experiences and to receive coaching, new knowledge emerged to support SE role and identity development. Furthermore, developing this new knowledge has provided the opportunity, in Chapter 5, to address and make recommendations concerning the core management problem identified through the research.

Figure 4.2: Action Research Cycle

4.0.3 Participant Demographics

At the time of this study, 16 of 18 research participants were practising SEs. Meanwhile, 7 of the 16 practising SEs also carried some team leadership responsibility (e.g. mentor, subject matter expert, manager backup) as the senior SEs on their teams. At the time of this study, 2 of the 18 participants had been promoted to management roles in their SE organisations. While these two managers now had fewer customer-facing responsibilities in their day-to-day jobs, both had previously been practising SEs and still remained active in certain customer-facing work.

Table 4.1 provides an overview of the participants to help the reader better understand their overall background and basic demographics. In addition to the numeric identifiers employed during the data-gathering exercise (SE01–SE18), the participants were assigned pseudonyms (see Table 4.1) to make them more recognisable as personas within the write-up of the research findings in Chapter 4. The pseudonyms were assigned randomly and alphabetically in the same order as the numeric identifiers (i.e. SE01 through SE18, Alvin through Robert).

Seven of the 18 participants advanced into the SE role without any formal engineering education or technical training. Alvin, Fred, Harold, Ian, Jonathan, Priscilla, and Quentin all identified themselves (and their development experiences) as 'self-taught' in relation to their technical knowledge, solution engineering, and solution-design approaches. Of this group of self-taught SEs, Alvin and Fred both completed secondary education, but chose not to pursue further education or a university degree. Instead, Alvin and Fred elected to enter the workforce immediately after secondary school, working in home construction and telephone-based customer service roles, respectively. Ian and Priscilla completed their university degrees in music and philosophy, respectively, while Harold, Jonathan, and Quentin all finished business-related degree programmes at university (see Table 4.1).

Participant Information											
Participant Identifier	Company	Pseudonym	Age	Years of Industry Experience	Years of SE Experience	Gender	Current Role	Education Level	Education	Technical Education	Sales Education
SE01	A	Alvin	46	21	10	Male	SE	Secondary Education	General	Self-Taught	Hospitality Sales
SE02	A	Bob	41	19	17	Male	SE	University (BS)	Engineering	Electrical Engineering	On the Job
SE03	A	Christopher	36	16	12	Male	SE	University (MSc)	Biology/Engineering	Engineering	On the Job
SE04	A	David	35	13	5	Male	SE	University (BS)	Computer Science	Networking	On the Job
SE05	A	Elton	43	19	15	Male	SE	University (MSc)	Maths/Comp Science	Networking	On the Job
SE06	A	Fred	40	18	15	Male	SE	Secondary Education	General	Self-Taught	Customer Service
SE07	B	Grant	38	15	15	Male	SE	University (BS)	Computer Science	Software Development	On the Job
SE08	B	Harold	51	25	18	Male	SE	University (BS)	Business	Self-Taught	Retail Sales
SE09	C	Ian	52	23	12	Male	SE / Team Lead	University (BA)	Music Education	Self-Taught	On the Job
SE10	B	Jonathan	44	19	8	Male	SE Manager	University (BS)	Business	Self-Taught	Distribution Sales
SE11	B	Kelvin	42	18	16	Male	SE / Team Lead	University (BS)	Computer Science	Electrical Engineering	On the Job
SE12	B	Lawrence	47	24	15	Male	SE / Team Lead	University (MSc)	Computer Science	Engineering	On the Job
SE13	B	Michael	41	18	12	Male	SE / Team Lead	University (MSc)	Computer Science	Engineering	On the Job
SE14	C	Nick	48	26	18	Male	SE / Team Lead	University (BS)	Computer Science	Engineering	On the Job
SE15	C	Oliver	45	22	17	Male	SE / Team Lead	University (BS)	Computer Science	Networking	On the Job
SE16	C	Priscilla	45	13	8	Female	SE	University (BA)	Philosophy	Self-Taught	Telesales
SE17	C	Quentin	38	16	5	Male	SE / Team Lead	University (BS)	Business	Self-Taught	Distribution Sales
SE18	C	Robert	47	19	11	Male	SE Manager	University (MSc)	Computer Science	Software Development	On the Job

Table 4.1: Participant Demographic Information: Technical Education

At the time of this study, the participants averaged 19 years of total work experience with an average of 13 years of practice in sales engineering. Each participant also possessed significant variety in their work experiences as SEs. These various experiences included work across a range of companies, solution types, countries, and cultures. Of the 11 participants who identified themselves as 'classically' trained engineers, each were employed in job roles that were within the scope of their respective engineering degrees before moving into an SE role (see Table 4.1).

Sales capabilities, sales training, and sales management skills comprise areas in which all participants described themselves as 'self-taught' or in which they recounted 'learning on-the-job' (primarily through the aid of a role model or mentor). 'Self-taught' in sales or sales management was the common depiction offered by every participant, even though Alvin, Fred, Harold, Jonathan, Priscilla, and Quentin had all worked in entry-level sales or business development roles early in their professional careers (see Table 4.1). Formal training and development of sales-related knowledge, skills, and behaviours, whether in prior or current roles, was not an experience that any of the participants could recall.

Of the 18 participants, 17 identified themselves as male (see Table 4.1). The lack of gender diversity in this study mirrors a persistent lack of gender diversity in job roles that are grounded in engineering education or expertise (Guerrier et al., 2009). The underrepresentation of women in technology is a stubborn problem that is discussed as an opportunity for future action research in Chapter 6.

4.1 How do SEs Develop and Evolve Their Roles and Identities?

Section 4.1 outlines findings related to the ways in which individual participants described their lived experiences concerning an ongoing process of professional development and evolution within their SE roles and identities. A close examination of the participants' career-life narratives illuminated the data in this section (see Figure 4.1). The experiences examined in this section extend from relevant educational pursuits through to early career events and through to the timeframes during which participants began to develop and practice their roles and identities as SEs.

Some participants recounted early lived experiences during adolescence, secondary education, post-secondary study, and first jobs undertaken. A discussion of these early experiences provided a lens for the participants to collaborate with me on scrutinising how later development of awareness, consideration, and adoption of the role and identity of 'sales engineer' occurred. Participants also recounted personal experiences related to adaptation, conflict, and synthesis in their SE roles and identities. The duality of the SE role, as experienced by participants, along with associated conflict, actions, and synthesis, are examined throughout this section.

4.1.1 The Path Towards Becoming a Sales Engineer

Findings related to the establishment of participants' professional roles and identities as SEs are covered in this section. Participants were asked the guiding question, 'How, when, and where, did you first become an SE?' to encourage reflection and discussion on this subject.

All participants could recall how a sense of self and relatively early experiences of identity formation in adolescence influenced decisions related to education and early career choices (see Erikson, 1968). A common narrative shared by all participants included a pervasive sense of 'genuine curiosity' in these formative adolescent years. I initially interpreted this curiosity to encompass only technology, but further exploration of the subject revealed that this curiosity included a diverse set of subjects, including business, in later educational and work experience. Rather than an exclusive focus on technology, participants highlighted the importance of a breadth of experience in their professional lives and credited this breadth of experience for their success in the SE role. Several participants further recalled how, once in the workforce, their interests expanded to curiosity regarding economic challenges and opportunities within the business arena.

Fred and Priscilla were representative of participants' early experiences of feeling 'lucky' to encounter technology in the 1980s and 1990s when ownership of a personal computer was still considered unique, and the Internet was still a novelty. Aligning to the reflections of most participants, Fred and Priscilla recalled an early sense of wonder and curiosity about technology and gadgets:

> Fred: '*I was fortunate growing up that I always had a computer in the house. Now, I consider myself to have been very lucky having a slow, old computer with a 1X CD-ROM, sound card, and a 2,400 baud modem* (laughing). *I always had access to a computer, so I was constantly tinkering and getting that sort of exposure. Thinking about it now, I really believe that those sorts of experiences as a teenager—having such a keen interest in technology—that's probably why I am where I am today'.*

> Priscilla: *'My dad loved computers. He was always in the computer shops, and I would go with him. I'm a lot like he was. I really love technology and gadgets—I always have. It's funny because [when I was young] I never really thought much*

about technology as a career. I didn't know what was out there, and I certainly didn't think I could do those sorts of engineering jobs or software development jobs'.

Participants who studied engineering in university highlighted a sense of broad inquisitiveness through their degree programmes and early in their first job roles. However, for those who navigated a non-technical path to sales engineering (e.g. Alvin, Ian, Fred, and Priscilla), an even more eclectic assortment of interests seems to have been the collective experience beginning in adolescence and continuing into post-secondary schooling or work.

Alvin recalled his own diverse experiences and reflected on what that meant for him on his journey towards becoming an SE:

> Alvin: *'In my experience, "having a life" before you become an SE is important, too, because it's not a job that I think you can necessarily prepare for—at least, not formally. You need to have a lot of general knowledge—stuff you pick up by doing a lot of things in work and life'.*

Relevant experiences shared by participants from their adolescence, post-secondary education, or early work-life all occurred before an awareness of the SE role. None of the participants in this study set out to become SEs–even those who studied engineering in university. As such, at the time when participants would have been in the process of making initial choices and decisions regarding education, work, and career, the prospect of moving into sales engineering did not play a factor in those choices.

Elton became aware of the SE role when he had entered the workforce but when he was also enrolled in a master's degree programme:

> Elton: *'In my university time, I didn't understand the SE role at all. Didn't even know it existed. But when I started my master's degree programme, I learned a little bit about the SE role from one of my professors. He explained what the SE role was and what an SE does and talked about different career options'.*

Participants described their surprise, curiosity, dawning realisation, and (in the words of Ian and Michael) 'delight' once they became aware that such a role existed at all. Participants universally described an 'eye-opening experience' of entering the workforce and becoming aware that the sales-engineering role existed:

> David: '*I had no idea that this world [of sales engineering] existed. I had never heard of the SE role before. I never knew there was such a position. And I felt, like—wow!* (smiling and laughing) *This is something I could only dream of as a job, and I never even thought it existed. It was like my eyes were opened to a new possibility'.*

After reflecting upon how they came to the SE role and identity, participants were asked about their experiences related to professional development. The following section covers what participants had to say related to their evolution from novice SEs to levels of higher proficiency and expertise.

4.1.2 Developing into the SE Role and Professional Identity

Participants were asked to recount their own experiences related to the 'how' of their role and identity development as SEs. Using the guiding question 'How did you become who you are today as a professional?' participants were asked to reflect on the journey and the influences they encountered on 'becoming' an SE. Discussion concerning professional development fell along three main paths: development as novice SEs, reaching competency as SEs, and the ongoing development to higher levels of proficiency and expertise. This section explores findings related to role and identity development experiences.

David recalled the experience of having one of his first sales engineering managers provide what he took to be a developmental roadmap concerning areas he would need to cultivate as a novice SE (an experience similar to that of 11 other participants):

> David: *'When I sat down with my manager that I had at [my previous company], he basically laid out the "101" of how the SE role works and what the job is. I felt like my eyes were really opened by that'.*

As Priscilla's contrasting experience reveals, not all SEs come to the role with the same understanding regarding the competencies required to perform the role well. In Priscilla's experience, as a new SE, she needed more time to understand her knowledge and skill gaps in the role. This slowed her early SE role and identity development:

> Priscilla: *'It was only [when] I was on the job at [my company] that I was really exposed to what the SE role actually was. So, I really had to learn on the job. It was a very gradual process of understanding what an SE really is and what an SE does'.*

Participants further recounted critical experiences related to approaches towards developing professional knowledge, advanced skills, and more considerable expertise early in their professional careers. Participants universally highlighted the value of two broad types of knowledge and skill development in the early stages of their careers: 1) getting 'hands-on' with solutions and technology to gain direct knowledge and experience as well as 2) developing a breadth of knowledge and expertise across various subjects and disciplines, including learning pursuits outside of engineering and technology. Michael shared a representative experience concerning the need to understand the technology he recommends:

> Michael: *'I have this tendency to start from the very basics—right from the ground up. I have to learn the technology right from scratch, and then I move up the learning ladder from there. I did that before, and I've carried that into the SE job'.*

David recalled an early experience, common to all of the participants, realising he needed to go beyond just technical know-how in order to develop an ability to engage people in public forums and at the 'front of the room' in presentations:

> David: *'When I first became an SE, and I started getting up in front of groups of customers, I was afraid! I mean, I guess that's natural. But I decided to go through it and stick with it anyway, and I learned more about the skill of interacting with people'.*

Christopher's motivation to further develop his professional identity as an engineer was shaped by a growing aspiration to advise his customers concerning the adoption of useful solutions in the pursuit of positive business outcomes:

Christopher: *'The desire to be in front of the customer, to grow professionally, to be thought of as somebody who is able to solve real-world challenges—that's something that kind of encouraged me to get into [the SE] role in the first place'.*

Christopher's experience working with others triggered his desire to develop further as a professional. These interactions between Christopher, his managers, his sales teams, and his customers influenced his development as an SE. Christopher's experience is representative of the universal desires and practises of the other participants–to ensure that the value provided to customers is not simply based in technical capability.

4.1.2.1 Importance of Role Models and Managers in the Development Process

Identity theorists have long noted that interactions between individuals and groups in workplace organisations, society more broadly, and other individuals act to forge professional roles and identities (e.g. Ashforth, 2001). Participants in this study recalled experiences related to the emergence of roles and identities based on these types of forces and influences.

Elton and Fred shared the commonly held experience of observing and working with more senior SEs during the process of professional development:

Elton: *'There was a senior person on the team that I would spend time with—he was somebody that I looked up to. He really pushed me professionally. We talked a lot about positive thinking and professional skills, sales skills, and IT skills. This senior person taught me how to behave with customers—professionally, sure, but he even taught me how to drink with customers* (laughter). *Nobody told me that drinking with customers was part of the SE job* (laughter)*! I really formed who I became as an SE by watching him in action'.*

Fred: *'I had the chance to work jointly on opportunities together with a more senior SE early in my career, and this gave me a lot of confidence. I was able to see from an observer's perspective what worked, what didn't work, how he would articulate things. Man, he was good! I guess, eventually, I might have figured it out myself, but learning from his lessons—I felt like that kind of gave me a jump start'.*

Role models, mentors, and exemplary colleagues produced a consistently positive impact from the experiences recounted as crucial by all of the participants in the context of participant role and identity development:

> Nick: *'My [current mentor] is very smart, very confident. He has great relationships with customers. When I watch what he does, he's—to me, at least—my idea of what an SE should be. I always try to emulate him'.*

> Grant: *'My manager has been a great role model for me. He's had 25 years of experience, and he's really helped me to learn how to deal with difficult or tricky customer situations. He's been a big help to me in my career, and I've really seen a lot of what he's done as things that I want to adopt as a part of my identity, too'.*

Like Elton, Fred, Nick, and Grant, the majority of participants offered similar accounts of how their roles and identities were shaped and influenced by role models, managers, mentors, and colleagues. These influencers were key in setting expectations, demonstrating skills, or modelling attitudes and behaviours during the participants' role and identity development.

4.1.2.2 Ongoing Professional Development

Participants unanimously described how they actively work to keep their knowledge and skills sharp. Even SEs with more than 10 years in the role relayed experiences of actively navigating their development along a path that continues to shape their roles and identities.

Elton described his own representative experiences with ongoing development:

> Elton: *'In my personal development, I really keep the focus on making sure my technical skills are sharp. I spend a lot of time reading technical documents, thinking about how to work with other vendors—not just how to sell our products. I try to spend a good amount of time staying hands-on, too'.*

Nick provided a common view through his experiences relating to his aim of becoming more consultative, becoming a good listener, seeking to understand customer needs, and becoming more adaptable:

> Nick: *'I'm really trying to become the type of person who listens to understand versus listening to reply or respond. For me, I think listening, understanding, and overall communication are so critical to everything that I do'.*

Harold exemplified another perspective shared by all of the participants regarding how seriously he takes the process of developing his skills and has taken individual ownership of his professional development in numerous areas:

> Harold: *'I spend a ton of time trying to develop my sales skills. I'm a part of a virtual community of people where we get together and share ideas about selling and talk about best practices for selling. A few years ago, I also took a presentation skills course—and I took it really seriously—and I studied the material and did the exercises. That course was really important to me'.*

Participants highlighted professional development as an essential component of the SE's role and identity evolution. Furthermore, professional development was characterised as a never-ending process within the participants' narratives. The following section of this chapter discusses findings related to the application of knowledge, skills, and behaviours through the SE role and identity in practice. Experiences associated with the participants' ongoing practice of sales engineering provide a greater sense of what it is like to *be* an SE—to engage customers, design solutions, and exhibit a duty of care towards customers.

4.1.3 The SE Role and Identity in Practice

Participants were asked to reflect upon and share experiences related to the following questions: 'What does it mean for you to 'be' an SE?' and 'What is it like for you to perform the role of an SE?'. These questions encouraged dialogue concerning what the practice of sales engineering truly involves, what experiences illuminate the practice of sales engineering, and how the role and identity of an SE is lived day to day.

Ian succinctly summarised his SE practice in a way that captures both the technical and influencing aspects of the SE role in a way that was representative of the experiences of other participants:

Ian: *'Here's what I* *really* *do. I help customers over any of the technical obstacles they may have in envisioning and adopting our solutions. I'm the "propeller head" in the sales team. [Our company] has a whole bunch of people coming to sell customers our stuff, but hey* (sarcastically), ***I'm*** *the "clever guy" that answers all the hard questions about all of that stuff.* (laughter)'

Grant also provided a similar perspective regarding the practice of sales engineering through his experiences with the difficult task of identifying underlying customer business problems, mapping that to value, and then devising an appropriate solution:

Grant: *'What I do day in and day out with my customers is to identify what their business problem is and then map that back to value. What value can be created or what value is being destroyed right now—and what happens if we do nothing? Then, I come up with the right solution to solve the problem and create value. Easy, right?* (sarcastically with laughter)*'*

Collectively, the various descriptions of the experiences of the SE practice offered by participants began to form a picture of the combination of solution expertise and business acumen that is necessary in the SE.

4.1.3.1 The Centrality of a Duty of Care by SEs

Participants universally provided the perspective that a duty of care for customers is central to the SE role and identity. The SE's duty of care touches customer engagement, solution design, trust-building, and professional integrity. These are specific facets of the SE role and identity related to the B2B buyer-supplier engagement and that are explored later in Section 4.2.

The idea that one individual or organisation may owe another a 'duty of care' is a well-established concept in English common law and today represents a core tenet of numerous professions (Jackson & Powell, 2017). Whether from a legal or professional perspective, the concept is intended to serve as a means to assign implicit responsibility for one individual or firm to avoid inflicting harm on another individual or firm. Based on the findings drawn from the career-life experiences of this study's participants, SEs take their duty of care very seriously in nearly every aspect of their roles and professional identities. Furthermore, as illustrated in later findings, participants' hyper-awareness concerning an implied duty of care for customers stands in contrast to the universally held participant view that salespeople may be more concerned with 'closing the deal' than taking care of their customers.

Bob's experience is representative of the most common participant experience: a duty of care for the customer can take on a rather personal implication in the performance of the SE role and the sense of self reflected in the SE identity. Examples of the duty of care that SEs demonstrate in their roles and identities were universally noted throughout the participant narratives.

> Bob: *'I've been an SE for the last 19 years. Designing solutions and implementing those solutions. Most of my customers have known me for the last 15 years. [My customers] are all large banks, big companies in the [financial services] industry. They know me. They <u>trust</u> me. I feel a sense of responsibility. When I'm designing a solution with them, when I'm proposing something, and I personally tell them that it is going to solve their problem—for example, this is what will secure your banking system—<u>that</u> creates a big sense of personal responsibility that I feel on my shoulders'.*

David and Alvin outlined common experiences concerning a dilemma that may be involved in demonstrating a duty of care for the customer—namely, choosing *not* to sell one's solution to a customer because *not* selling them a solution may be the best thing for that customer:

> David: *'Here's what I have to do. I have to expose the things that customers should watch out for. A salesperson is trying to avoid talking about those areas that the customer needs to watch out for. But telling a customer what the dangers might be—well, that's what it means to be a good SE'.*

> Alvin: *'I've got a customer that I've had for years. They followed me from [a previous company] through to [a later company] all the way through to [my current company]. I'm still working with them. And for them—I guess they see me as their salesperson, but also as their consultant on different solutions. That's the type of trust*

they have in me. I tell them what they need, and they buy it because they trust me based on the track record that I've developed with them. But I can do that because I'm also honest with them about what they <u>shouldn't</u> buy, too'.

In Section 4.2 of this chapter, other findings in which the customer duty of care 'thread' reappears in other narratives are reviewed in the context of the B2B buyer-seller dynamic. In their approaches to trust-building, truth-telling, professional integrity, and value creation, participants provided insights as to how a conscious orientation towards delivering value to customers and 'doing no harm' is deeply embedded in the SE role and identity.

4.1.4 I Absolutely Love This Job!

Throughout various interviews and discussions, participants offered viewpoints and experiences that highlighted the distinctiveness of the SE role and professional identity. Unexpectedly, this included a universal 'love' for the SE role amongst participants, often based in the role's distinctiveness since it stands apart from both 'pure' engineering and traditional selling. Criticisms or negative experiences by participants concerning the SE role mostly centred on conflicts with sales colleagues (e.g. salespeople 'stretching' the truth) or a lack of confidence in their own company's solutions or leaders. Despite being invited and encouraged, in many opportunities and settings (e.g. both individual interviews and follow-up discussions), to 'complain' about problems or dislikes of the SE role, participants expressed little interest in dwelling on negative experiences related to the role itself.

> Elton: *'I <u>love</u> the sales engineer role. I'm serious. I absolutely love this job!'*

David expressed his 'love' for the role this way:

> David: *'I clearly remember posting on my social media—it was about five years ago—after I had a few quarters under my belt in my job as an SE. My post was something like, "It took me eight years, but I think I found my perfect job!"'*

This notion of a 'love' for the SE role, or the role as the 'perfect job', regularly surfaced in 15 out of 18 participant narratives and follow-up discussions. When pressed on this topic, Kelvin provided insights into other facets of the distinctiveness of the SE role:

> Kelvin: *'After joining the SE team, I had some definite thoughts about the new job. My experience was that it is a* <u>*much*</u> *more interesting job than any other job I'd ever had in the past because it's no longer just a technical job. It's much, much more than that. It means you have to have a different way of thinking'.*

Christopher offered his experience regarding how the variety of engagements with customers concerning their challenges remains a distinctively motivating factor for him to stay 'in love' with the SE role:

> Christopher: *'My motivation to remain a sales engineer has primarily been because I'm able to get the experience of solving problems by interacting with different customers almost daily. I love it. When you're an SE, and you're in the field almost every day, you might be talking to a different person, with a different perspective, every single day'.*

Though participants generally expressed a 'love' for the distinct SE role and identity, the role is not without conflict. Participants commonly recounted difficulties experienced in situations of team conflict with salespeople. Findings related to team conflict are covered in Sections 4.1.7 and 4.2.1.

4.1.5 The Dual Identities of the SE

The duality present in SE roles and identities exists both by design and as a result of organisational influences over how sales engineering has evolved. The sales-engineering role was established in the early 20th century in response to the need for both buyers and suppliers to have technical experts involved in the selection, development, application, and implementation of industrial solutions (Lester, 1959). Early SEs were grounded in the 'engineering' aspect of their role, but the 'sales' aspect of their identity became more critical as B2B selling evolved (Darr, 2006). As the practice of B2B selling continued to rapidly develop in the early decades of the 21st century, being simultaneously credible in engineering and sales became even more critical for SEs (Reday et al., 2009).

David discussed his experience navigating the duality of the SE role and identity:

> David: *'What I'm doing is to really help the customer to see the possibilities. I'm helping them to realise that what I'm recommending is* <u>*exactly*</u> *what they were looking for all along, even if they didn't know in advance before you talked to them. It's like you're merging these two areas of who I am—the technical or engineering part with the customer influence or business part'.*

Kelvin and I explored some specific, and current, identity challenges that he was working through. Kelvin described the need for SEs to recognise, and to become comfortable with, the dual engineering–sales aspects of their role. Kelvin highlighted the need for SEs to go beyond simple recognition of the role's dual nature by moving towards a synthesis of engineering and sales to obtain a better chance at succeeding in the role:

> Kelvin: *'As an SE, I have worked with operations guys and the engineering folks in the field. Even the business guys. I think some SEs do a better job at talking to a wide variety of people than others. There are some SEs in the team who prefer to be* <u>*just*</u> *a technical or product expert. I get really concerned when I hear that. It means that I've got some of my colleagues who may not understand their role'.*

The conflict shared by Kelvin through his experience represents a recurring situation noted in the participant narratives in this study. Kelvin and I discussed a specific lack of understanding about the SE role and a gap in training for sales engineers.

The ability to be adaptive represents a vital aspect of the SE role and identity and is explored in the following section of this chapter. Adaptation is particularly important, as changes in B2B buyer–seller relationships require SEs to become increasingly adept at navigating complexity, change, and ambiguity.

4.1.6 How SEs Adapt Their Roles and Identities

Participant accounts of 'what it is like' for them to undertake identity work when answering the guiding question 'As an SE, how do you see yourself?' began to surface discussions and possible actions related to adaptations in the role and identity. Even after operating as SEs for several years, participants reflected on how they had encountered increasingly high rates of change and ambiguity in the SE role. Participants relayed what it was like to experience this change and uncertainty and noted how these changes prompted the need for role and identity adaptation. For example, Elton explained, 'I have to be the one to take responsibility for finding new paths—new ways of doing things. I have to be the one to respond to changes that are going on around me'. Alvin, meanwhile, shared his experience in this way: 'For me, I know that the people who do really well as SEs are the people who are constantly adapting. It's survival. Adapt or die'.

The ways in which participants described how they experience adaptation, and consciously chose to adapt in their roles and identities, were closely tied to how participants engaged in professional development. However, experiences related to adaptation differed from development in a meaningful way: Whereas development was generally associated with an increase in participant knowledge and skills, adaptation was linked to behavioural changes or situational responses in ambiguous or novel situations and circumstances. For example:

> Alvin: *'My job with one customer is very different from my job with another customer. I actually feel a little bit like an actor. I mean, not in a fake way, but I have to adapt who I am with different customers—like an actor improvising. I'm not faking it. I'm still the trusted advisor to my customer. But I've got to be aware and adapt my approach on-the-fly'.*

All participants described how they experience the need to adapt their roles and identities in the face of changing B2B selling environments–particularly as customers seek to digitalise all aspects of their business models (Ostrom et al., 2015). Participants offered various examples from their practices regarding how opportunities to create value for customers through the proper application of solutions are increasingly dependent on an understanding of a customer's business and related challenges. Participants consistently noted that this level of business understanding requires both development and adaptation in their roles and identities. This technicisation of selling now requires both salespeople and SEs to be adaptable in particular role-specific areas of knowledge, skills, and expertise (Syam & Sharma, 2018). A common sentiment was encapsulated in this observation by Ian:

> Ian: *'The expectations between what the seller does and what the SE does have gotten closer, in a way. I'm now being asked to elevate my <u>business</u> knowledge on top of*

knowing all about the solution. On the other side of it, customers demand that the seller dramatically increases their solution knowledge'.

Alvin provided another, more colourful, extension of this notion related to what it is like for him to be adaptable with customers using an analogy—the television character MacGyver from the 1980s and 1990s. The eponymous television character, Angus MacGyver, was played by the actor Richard Dean Anderson, and each week, the character had to use his exhaustive knowledge of science to solve complicated life-or-death problems. Solutions usually involved only everyday household items, a Swiss Army knife, and duct tape, but the solutions always seemed to work.

> Alvin: *'I mean for me, as an SE, I've gotta be MacGyver!* (laughter) *I need to be a Richard Dean Anderson kind of guy. For me, this has always been a sink-or-swim type of role. I always feel like I'm right on the edge when I'm trying to get these solutions implemented for [my customers]. It feels like life or death—MacGyver!* (laughter)*'*

Oliver and Michael provided further insights regarding the current and future changes they are adapting to in their companies as compared to broader industry shifts, particularly related to digitalisation in the 'Fourth Industrial Revolution' (Ritter & Pedersen, 2020):

> Oliver: *'I've just experienced a big change in the way I had to sell compared to when I was at [my previous company]. We were so used to selling hardware. Then, when cloud technologies came in, we struggled to make the shift. It is a lot like [my current company], because we are also trying to sell legacy products like [this particular product]. It doesn't always happen the way we plan'.*

> Michael: *'If I look at where I will be in 5 or 10 years from now—where I want to be, anyway—with technology trends and the changes that keep happening, I'm just trying to keep up on what's the latest—what's going to change, or what's there for the next three years or five years from a technology standpoint. And at the same time, I'm working to grow myself as a businessperson'.*

It is highly likely that as these internal and external forces of change and ambiguity influence role and identity adaptation in B2B relationships (Kaski et al., 2017), SE role and identity conflict will continue to occur. Participants shared their insights and experiences into what this type of conflict is like in the face of required adaptations by SEs are introduced in the following section.

4.1.7 Professional Role and Identity Conflict Experienced by SEs

As SEs are pushed further towards actions and activities with buyers that require knowledge, skills, and behaviours traditionally associated with salespeople, SEs may experience a certain amount of conflict in the performance of their roles and identities. The evolution of the B2B buyer relationship further influences how managers and salespeople engage SEs (i.e. role) as well as the way that SEs see themselves (i.e. identity). Participants were asked to explore and reflect upon various questions related to their experiences in the role and identity of the SE:

- How do you believe others view you in the role of SE?
- How would you describe your 'technical' experiences as an SE?
- How would you describe your 'sales' experiences as an SE?

Ian summarised a common participant experience of what it is like to be 'pulled' in opposite directions based on the 'shifting needle' of how managers might aim to orient the activities, measurements, and incentives of their sales-engineering teams:

> Ian: *'My experience tells me that the SE role is still evolving. I know what I see—this role is nothing if not continually evolving. What's happening in our SE organisation is a bit like a needle on a gauge that's constantly shifting around from left to right and right to left. Sometimes, the needle is showing that we <u>are</u> sales, and sometimes, it's showing that we <u>support</u> sales—or that we're more technical. It's the whole duality thing! It's very grey. It's very confusing. We're <u>both</u> sales and technical, and yet we're not. It's <u>much</u> more driven by business demands, compensation, and organisational structure. So, in a way, we are sort of forced into being whatever the organisation says we should be!'*

Sales engineers, in the participants' shared experiences, often come to the SE role and identity with a higher level of comfort in the technical and engineering aspect of what they do and who they are. Participants portrayed the 'selling' aspect of sales engineering as a nuanced area of role performance and identity. Participants further described a higher level of comfort performing their SE role in the manner of consultants, counsellors, and advisors to customers in which they act as trusted guides. Meanwhile, participants recalled uncomfortable experiences of being put under pressure to 'push' or to 'close' a customer towards particular courses of action.

Role and identity conflicts were universally noted in the context of SE practices such as truth-telling, professional integrity, and the duty of care for customers. Through these practices, one can interpret that participants experience levels of role and identity conflict proportional to the level of 'pushiness' asked of them in their roles.

Priscilla and Oliver recalled conflicts as they experienced increased pressure to 'sell' or 'close' compared to identities more attuned to providing advice and consultation:

> Priscilla: *'The part of the SE job that is less enjoyable for me is the sales side. The politics of that—the quota thing—or the accounts that you get, the pressure to close—I don't enjoy that very much'.*
>
> Oliver: *'In my heart, I'm still trying to be an engineer.* (laughter) *I tend to get too involved in the engineering part of the job, though. I still want to be in technology. I still want to be able to figure it out—<u>how</u> to do things. How I can take a whole bunch of disparate technology, then build it—tailor it to each customer. I <u>love</u> to do that'.*

Conflicting interests, ambiguities, and misalignment between buyer and seller expectations may all contribute to identity conflict for SEs. Discussions with participants revealed situations, and a need for action, related to problems of identity that, in turn, produced data regarding how SEs deal with these conflicts. Sales engineers may face trouble reconciling their sense of self and the demonstration of their roles when balancing the potentially opposing responsibilities of engineering and sales.

Priscilla summarised her experience with identity conflict as one driven by company culture in the sales organisation. Within a follow-up coaching discussion, Priscilla and I discussed a frustration that Priscilla's company seemed to place an unhealthy emphasis on closing deals at the expense of doing what was right for the customer:

> *Priscilla: 'Look. Our company culture is built on driving to exceed quota, and I'm incentivised on selling specific products—just like the salesperson. But if you think about it, I think every single company is like this—companies want you to sell a product even though that may not be the best solution for the customer. I hate that. I don't think it's right. The tough part is, I still obviously need to make money, but I want to do it in a credible way. I'm really unsure what I can do to address this'.*

Alvin recalled a similar experience with a company where incentives were aligned to push the B2B sales organisation to recommend and implement what were, in his view, deficient solutions. This type of identity conflict can be perceived by SEs to violate the duty of care, trust, and professional integrity that many of the participants in this study highlighted as core to their sense of self:

> Alvin: *'At [my previous company], we tried to launch a [particular new product type] into the market and compete with [our main rival]. We were trying to do it with a product that just didn't work. To put it bluntly, the product was crap! To make matters worse, selling that awful product was the only way we could actually meet our targets—the spiffs, the accelerators, the bonuses, and everything were all geared on the [particular new product]. What a joke! I had a real problem with that. It's one of the reasons I left [the company]'.*

Michael's specific issue with identity conflict surfaced during a follow-up coaching conversation. This mirrors the experience of most participants concerning an internal divergence between the technical aspect of the professional self and a drive to support the supplier's business outcomes:

> Michael: *'Here's the issue I've got. Some of the challenges that I'm facing are that, when I'm interacting with a business leader, and I'm trying to get aligned with their thought process, that's where, sometimes, I face challenges. Because I've always been*

a technology person. It's a conflict between the technical side of my approach—who I am as an engineer—and what I know I need to bring in on the business side. I'm trying to reconcile those things'.

For SEs to succeed in their roles and develop strong professional identities, practising SEs must learn to successfully navigate these types of conflicts. The ways in which participants described navigating these conflicts are explored in the following section of this chapter exploring how the synthesis of engineering and sales occurs.

As managers in B2B organisations increasingly rely on SEs to meet buyer expectations related to solution expertise and business-value creation, SEs are experiencing internal and external forces that may require greater awareness, balance, and synthesis between their two 'worlds' of engineering and selling in their roles and identities.

4.1.8 Synthesising Engineering and Sales in the SE Role and Identity

The nature of the SE role and professional identity requires an ability to span boundaries between technology and business by bridging or de-mystifying complex ideas for buyers. To this end, SEs must synthesise the engineering and selling aspects of what they do and who they are. Synthesis might seem an easy concept to understand, but the question is raised as to what it is like to synthesise these two 'worlds' of engineering and sales. Participants were asked, 'What is it like for you to be both 'technical' and 'sales' at the same time?' building from the discussions about role and identity conflict encapsulated in the previous section. Experiences shared by Ian, Michael, and Christopher summarise a common pattern of participant narratives related to the synthesis of engineering and sales.

To begin, Ian provided a viewpoint regarding what it is like to blend these areas of engineering and sales while attempting to remain 'authentic' towards customers, other stakeholders, and to the sense of self:

> Ian: *'I've got my own unique blend of the things that have made me successful. As an SE, it means embracing that blend with your whole heart. If I try to be someone else, try to be super technical when I'm not, or try to be super salesy when I'm really more technical—you have to be a blend. [The company] wouldn't have hired me if I wasn't*

a blend. If it turns out that you can't make the transition, that's generally when you realise that you're probably not good sales-engineering material. There's got to be a blend'.

Michael succinctly expressed his experience with approaches to synthesis by explaining that his identities are situationally mixed, adapted, and re-balanced:

> Michael: *'I can definitely be different identities depending on who I am with. Who I am with at the time is going to drive differences in my identity'.*

Christopher attempted to (roughly) quantify the blend, balance, or synthesis of engineering and sales:

> Christopher: *'My own experience as a pre-sales engineer is—well, the job is a mix of both technical and sales skills. My own experience is that about 60% of who I am is as somebody who is making a technical contribution and about 40% is where I have to think like a salesperson. It's essentially a combination of both'.*

It is my experience, and the view of other scholars, that a synthesis of engineering and sales approaches is critical to performing the SE role (Darr, 2006). Managing an optimal 'mix' of engineering and sales while still attempting to remain faithful to other vital aspects of the SE's professional identity (e.g. trust-building, truth-telling, professional integrity, a duty of care towards the customer) represented a common thread between participant experiences related to engineering and sales synthesis.

Like most participants, David used the word 'balance' to explain how he experienced approaches towards the synthesis of engineering and sales as an SE and the ongoing work of synthesis in this area of role performance:

> David: *'Balance is key. And it's definitely something that I've tried to practice over the years. I have moments when I'm out at a customer, and I'm conscious of trying to strike a balance between technical and sales. I mean, right there in the middle of the conversation, I have a sense that I need to <u>consciously</u> balance what I'm doing—*

> *balance the engineering part of me with the fact that I'm actually trying to sell the customer something'.*

Elton described his own experience with synthesis as not only a process of balance, but as an act of filtering or vetting his 'sales mind' to emphasise his professional identity:

> Elton: *'An SE is sales plus engineering. It's some sales and some engineering. When I meet with a customer, it's really a sales meeting. But the SE is a more technical role, so I end up discussing things with the customer that are very different from what a salesperson can. The SE has a sales mind but works with customers using kind of a technical filter'.*

Ian and I discussed how he might be more conscious of this synthesis and shift his 'balance' more toward sales versus strictly technical. In a discussion that occurred two weeks later, Ian shared a perspective from his personal experience during those two weeks regarding how the synthesis of his professional identities had become more apparent. Ian characterised his approach towards synthesis as analogous to mixing two unique colours to create an entirely new hue:

> Ian: *'Here's my experience with trying to blend engineering and sales…really being conscious of it these past couple of weeks. As an SE, there's going to be a shade of yellow—let's call that technical—and there's going to be a shade of blue—think of that as business. As an SE, that means, when you blend those two things together, you've got to be green—your own shade of green. You could look at me and say we're all green as SEs. That's true, but the thing is, we're different shades of green. The big 'aha' here for me is that you can't just be yellow or blue. That won't work. You've got to be your own shade of green'.*

Synthesis is a distinct part of what makes the SE role and identity unique. Without the integration of engineering and sales in their roles and identities, individuals are, by definition, performing some other role and working within another identity, such as the extremes of 'pure' engineer or B2B seller.

4.1.9 Conclusion – Experiences of SE Role and Identity Development and Evolution

Section 4.1 has provided a sense of the way in which the SE role and identity evolve over time. Through the participants' narratives, common patterns of experiences recalled by most or all participants across a type of lifecycle have begun to emerge from the data. Building on the initial narrative interviews, Section 4.2 summarises additional data gleaned from transcripts of interviews and follow-up coaching discussions with participants. These data have been examined and analysed to develop a deeper understanding of the way that SEs engage B2B buyers.

4.2 How do SEs Experience B2B Selling?

The purpose of Section 4.2 is to provide the reader with a summary of core participant experiences and actions related to the way that the SE role and identity is performed and exhibited within the B2B buyer–seller dynamic. These examinations, explorations, and discussions are drawn from the participants' lived experiences, follow-up conversations, and reviews of actions taken by participants within the B2B buyer–seller relationship.

4.2.1 SE and Salesperson Team Selling Dynamics

Participants recalled various team selling experiences and buyer engagements undertaken with sales colleagues. Team selling has become an increasingly important element of B2B selling, especially in situations where buying organisation seek to create value by deploying complex solutions (e.g. Pullins et al., 2017).

Within the team selling dynamic in which the SE and the salesperson operate, role and identity negotiation occurs between SE and seller. The negotiation of roles and identities involves reconciling questions of responsibilities, accountabilities, and communication within the process of customer engagement.

Alvin provided a view of his experience of team selling through the analogy of a marriage in which roles and identities must be negotiated and tacitly understood for the team selling relationship to succeed:

> Alvin: *'You know, I have a kind of pseudo marriage with my salesperson.* (laughter) *So, I've had to change some things I do to work with him, and then he's had to change some of the things he does to work with me, right? Otherwise, this relationship is not going to work out very well!* (laughter)'

In follow-up conversations with Ian and Priscilla, they expressed experiences similar to those of other participants. After applying actions toward improving team selling dynamics, each reflected upon their role and identity in the context of the SE-salesperson team:

> Ian: *'My seller and I have to divide and conquer. A salesperson—what they do is a high-wire act, and the customer is the audience. I mean, when the seller is up on the wire, that seller wants their SE down on the ground ready to catch them if things go wrong.* (laughter)'

> Priscilla: *'The way we are working on this is that [my salesperson] takes care of [the majority] of the customer relationship stuff. Then, I can focus on the technical parts of the solutions—the details—like the proposal. If there is a proof-of-concept, then that's my job, and I also handle the relationships with partners—our alliance partners—in a deal'.*

Alvin shared a vivid example of a follow-up discussion in which he and his salesperson had explored the team selling dynamic. One of the roles that Alvin said he now plays for his salesperson resembles the 'outside shooter' or the 'star point guard' on a basketball team—the person who comes in for the big shot to win 'the game':

> Alvin: *'[My salesperson] put it to me this way: He told me, as his SE, he just wants me to score the three-pointer at the end of the game—like in basketball. As long as I can come onto the "basketball court", just throw the three-pointer to get us the win just as the buzzer goes off, and then I just strut off the court with my hands in the air. That's all he wants from me. That's what I think he sees SEs as. Like we're the clinchers or clutch players. I do also think, from his perspective, it is about keeping control of the deal—not letting me get too close to the customer relationship, because he wants to control that.* (laughter)*'*

Sales engineers almost always operate in a team environment in B2B organisations (Storbacka et al., 2011). When a salesperson and SE work together in a closely knit team, this can generate occasional conflict in the team selling dynamic:

> Lawrence: *'Sometimes, I feel like I'm being put up against the sales team—and it does create some real tension. Because, if we are working as a team, and then somebody gets called out individually—for praise or for criticism, or if you think you are being successful and doing the right thing, and then you get slammed—that really undermines our teamwork'.*

In the participants' practices, experiences of team conflict were often grounded in a perceived tendency for salespeople to exaggerate, overpromise, or outright lie to buyers to close a deal. Sales engineers may experience this conflict as the uncomfortable situation of being caught between their duty of care for the customer and the commercial desires of a salesperson. David discussed this situation with me over a period of time in which specific areas of conflict were covered through the use of coaching and learning interventions. Here is how David described his experience:

> David: *'I'm always searching for that fine line—the balance between what the reality is—how the product actually performs—and how the product is being positioned to a customer. If the meeting is a joint one—so if there is an account manager or a rep in the room with me too—let me put it this way: They're definitely* <u>not</u> *afraid to cross that line and move away from the truth at all. I've seen so many sellers cross the line where they over-promise so many times, it's not even funny'.*

With Lawrence and David, the areas of conflict were explored by discussing specific issues and approaches to conflict management. Like Lawrence and David, other participants recalled what it was like to mitigate conflict from what they perceived to be a damaging lack of truth-telling by the salesperson. Common mitigation approaches in these situations included participants' efforts to counter falsehoods with truth-telling or other demonstrations of professional integrity to either the customer or to the salesperson.

Elton shared his account of an ongoing conflict within the team selling dynamic. Elton and I worked through specific ideas and actions as options toward managing the conflict. Here is how Elton characterised the current situation:

> Elton: *'Now my customers want to work with me more than our salespeople because they believe that the sales guy will just push them to buy or will push them on pricing. But with me, the customers don't hesitate to work with an SE, or meet with me, or to tell me all about their business because, well, I'm not going to push'.*

In Elton's situation, he has tried to adopt a stance as a mentor to his salespeople since they are less experienced in the particular markets that his company serves:

> Elton: *'I've tried to be more of a mentor. These guys joined [our company] and they were pretty nervous and anxious. I think that's where some of the conflict is coming from. Approaching it as a mentor to them is helping for sure'.*

The research findings in this section illustrate a range of dynamics in team selling environments, all of which operate to shape the roles and identities of SE and seller alike. Whether teams experience close working relationships, mutual respect, distrust, jealousy, friendship, or all of the above, one thing that all participants highlighted concerned the generally positive experience of engaging customers in partnership with their sales counterpart. The following section examines findings and discussions concerning customer engagement and how that influences the practice of sales engineering.

4.2.2 The Contrast Between SEs and Salespeople

One area that participants were keen to further explore within their experiences involved specific contrasts between SEs' professional roles and identities as compared to those of generalist salespeople. As B2B buyer–seller relationships have evolved, generalist salespeople have become more focussed on the commercial elements of deals while SEs or other specialists have taken on more responsibility for 'the details' of complex solutions (e.g. Bumblauskas et al., 2017).

Oliver raised the issue of how an inconsistent ability to 'reach' the customer might pose a potential problem, since SEs may need to engage business buyers directly regarding proposed solutions:

> Oliver: *'The sales team controls all the power because they have direct access to the buyers, and SEs typically don't. The issue here is access to the buyer—we need to reach the customer because we're the ones proposing the solution. There's definitely a customer perception that the SE team is stronger technically than the sales team. We're all working together towards the same goal—or, at least, we <u>should</u> be'.*

I offered coaching to Oliver concerning this area related to the division of responsibility along the boundary between the 'solution' (i.e. the SE's primary area of responsibility) and the 'commercial' aspects of the buyer relationship (i.e. the salesperson's primary area of responsibility). Later, Oliver shared his experience of positioning himself as the buyer's 'trusted advisor' to his sales counterpart and recommending a division of responsibility between 'solution' and 'commercial'. Oliver seemed surprised at the willingness of the salesperson to 'give up' certain aspects of the buyer relationship. Oliver put it this way:

> Oliver: *'[We] needed to find some middle ground together with the sales team. I'm glad we were able to discuss this so openly. I've already got good credibility with [my salesperson] so he knew it wasn't like I was trying to take over or anything like that'.*

Bob shared his focus on the need to get a solution exactly right for his customers. Bob's experiences highlight how integral a customer duty of care (see Section 4.1.3) and professional integrity is in the SE roles and identities characterised by this study's participants. A focus on getting the solution precisely right for the customer stands in contrast to the salesperson's stereotypical responsibility to drive a deal toward closure on commercial terms. Bob's experiences indicated a lesser focus by salespeople on positive customer business outcomes and a higher emphasis on the potential for financial gain by the salesperson. This was a similar experience shared by 13 out of the 18 participants:

> Bob: *'I'm the one proposing the solution to my customer. For me, this is not just a job, but it is also my responsibility. I <u>have</u> to make sure that this will work for my customer. I <u>have</u> to be in a position to ensure that what I'm proposing is the best solution for my customer and for their company. That's how I always try to do things—always doing the right thing by my customer. The commercials are important too—my salesperson drives that—but the solution is where things have to be exactly right'.*

Whether based on perception or reality, participant experiences indicate that contrasts in knowledge, skills, credibility, reliability, and an orientation towards customer success represent areas of differences between SEs and their sales colleagues in B2B buyer relationships. In Bob's situation, he works with a variety of salespeople who have a range of experiences. Bob and I discussed strategies for 'educating' and 'influencing' salespeople about the contrasting and complimentary nature of the SE role and the sales role. Bob's approach to 'educating' his salespeople centred on the following approach:

> Bob: *'I want my customer AND my salesperson to see me as a trusted advisor. I know we're under pressure to get saleable solutions moving but we've got to sell the right thing. This is a long-term game. I've been doing this for 17 years and you cannot burn people just to close a deal. I've got to help my salespeople see that…think longer-term'.*

Beyond contrasts between sales and SEs, participants reflected further on how they experience the distinctiveness of the SE role, outlined in the following section of this chapter.

4.2.3 The SE Approach to Customer Engagement

For an SE, customer engagement involves demonstrating the credibility, reliability, experience, and in-depth knowledge of an engineer coupled with an ability to consult, empathise, communicate, and guide customers (Care, 2016). In my experience, translating desired outcomes into real solutions represents the 'secret sauce' that proficient and expert SEs apply in their customer engagement approaches. This section examines discussions and findings from participant practices related to customer engagement.

Fred's experience captures an essential facet and dilemma of customer engagement for a practising SE: the need to approach buyers consultatively, minimising bias towards pre-conceived ideas or solutions, in pursuit of business value for the customer. Fred and I discussed this in a coaching context related to specific customer situations. Ideas and methods of customer engagement were explored as actions for Fred to take with his customers:

> Fred: *'Look. At the end of the day, my customers buy technical solutions to resolve <u>business</u> problems. I can't just go in and talk about the technical components [of the solution]. I have to understand their business risks first—how we can help them from that perspective. I'm in the business of mapping my technical solutions back to what will help the customer. That's what I need to do. That's what I need to get better at'.*

For senior or seasoned SEs, customer engagement requires these SEs to work with buyers as trusted problem-solvers. More senior participants noted that, as their role and identity awareness has matured, the need to listen first, to understand, and to pursue favourable outcomes for customers predicated any work related to solution recommendations or design.

Grant provided important context concerning the variety of buyers that he must engage. Often, this has required him to move out of the technical 'comfort zone' to engage customers in 'the business' or in other functions not strictly concerned with the technical aspects of a solution:

> Grant: *'There are multiple actors in different parts of the organisation that I need to engage in order to fully understand the situation, what the need is, and if there is an*

> *opportunity to get engaged in the right conversation. I can't just limit my conversations to the technical buyer. I've really got to engage both the technical and the economic buyers'.*

For SEs, possessing expert-level knowledge, skill, and hands-on experience is of little benefit to the customer until the SE engages the customer in the process of crafting a solution. Environments conducive to problem-solving emerge when an SE can thoughtfully and professionally engage a customer by leveraging their deep technical understanding. The following section explores and interprets various participant experiences related to better approaches to solution design.

4.2.4 How SEs Engage in Solution Design with Customers

When SEs are called upon to be consultative problem-solvers, one outcome of their engagement with customers likely pertains to the design of solutions with a high probability of solving a customer's business problems and delivering unique value. This section explores various experiences that offer facets of understanding related to how SEs approach solution design with B2B buyers.

Jonathan and I explored means of engaging customers with approaches that extend beyond merely providing features, functions, and capabilities in a product or technology. Engagements between Jonathan and his customers illustrate how relevance to an organisation through a value-oriented implementation of solutions is critical in the process of solution design:

> Jonathan: *'So what's been changing is, instead of going in and just selling technology, I feel like we're actually becoming a relevant part of how customer executives are driving their business. When they go to do something different, they'll now think about how to involve [our company]'.*

Grant and I explored the concept of the SE as 'designer' or 'design thinker'. As a result, Grant discussed his experience adopting some of the practices of designers or design engineers when approaching solutions with buyers:

> Grant: *'I've realised that we need to think a little bit more like design engineers, or designers, or architects. We need to ask <u>much</u> better questions and spend a lot of time surfacing what the real customer problem is that we're trying to solve. Then, I can start to home in on where the problem really is so I can solve the problem and create value for the customer'.*

Many of the participants acknowledged a heightened awareness of the need to listen and ensure that they avoided jumping to conclusions based on partial evidence of a problem or potential solution to that problem. These experiences related to listening, understanding, being careful to recommend the proper solution, and thinking about customer outcomes all revolved around a collective desire to act as the 'trusted advisor'.

In a follow-up discussion with me, Bob shared the experience of becoming more aware that he was 'the interface' between his customer and his company. In the solution design process, his example illustrates how the SE can become something more than an engineer with selling capabilities that are only occasionally tacked onto their role. This type of experience also illustrates how, through greater awareness of this opportunity, the SE can operate more effectively as a trusted party bridging the needs of both buyer and supplier:

> Bob: *'As an SE, I realise that I operate as the interface between my customer and my company. I'm responsible for understanding customer requirements. I can design solutions that fulfil my customer's needs, but at the same time, I'm adding in unique value from [my company] when it comes to delivering a solution'.*

In the process of solution design with customers, participants reflected on trust-building as a critical element to the credible performance of the SE role and as central to the SE identity. The idea of being trustworthy, reliable, and the type of professional that is willing to tell the truth when others may not be willing to do so comprise aspects of the SE role and identity covered in the following section.

4.2.5 The Critical Role of Trust-Building in Sales Engineering

Participants recounted their experiences concerning the pursuit of sustained professional credibility with customers and other stakeholders through the persistent demonstration of trust-building. Participants consistently raised the idea of achieving the status of 'trusted advisor' with customers within the accounts of their various experiences. Participants generally portrayed becoming a trusted advisor as a lofty, challenging, yet achievable goal. In the participants' experience, trust and truth-telling were depicted as crucial to performing the SE role and central to the sales-engineering identity.

In a third follow-up conversation with me, Bob shared his view as to why becoming a trusted advisor is so vital in the context of customer engagement and solution design:

> Bob: *'I want the customer to see me as a trusted advisor. That's where I know they will feel like they can discuss anything with me and take advice on anything. Not only on [my company's] products, but <u>anything</u>. There might be a situation where there is no product available from [my company] to take care of the customer's needs. But still, a customer can call me and consult me. I want to get to that status with as many of my customers as possible. That's my objective. That's where I'm headed'.*

Alvin, like other participants, reflected on how trust could be lost if facts about solutions, capabilities, or possible outcomes are tinged with false claims. Alvin demonstrated that, in his experience, an SE must be wary of inaccuracies since, at some point, an SE may need to prove whether statements made in the process of selling are true. Alvin and I discussed a particularly thorny issue he had experienced with a sales counterpart:

> Alvin: *'Here's what I've just experienced. Somehow, this salesperson—in their head, they can reconcile the difference between—I'm going to try and be kind here—what's possibly not the truth when they are trying to close a sale. As the SE, I'm the one who has to prove what they say. If the salesperson comes in and says, yes, 100%, we can do that. I'm now the person that then has to go and prove that it can be done. That's such an important difference between the SE and the salesperson'.*

When trust, credibility, and reliability have been established with a customer, the 'licence' or 'right' to tell the truth—even when difficult or uncomfortable—may be earned and demanded by the customer. Truth-telling can be viewed as a critical approach for the SE, and this is made more meaningful through trust-building. A distinct awareness of how important it is for SEs to engage in trust-building was universally evidenced throughout the participants' experiences. Trust, professional integrity, and ethics each represent the strongest 'threads' linking and illuminating the phenomena explored in this study's findings.

Professional integrity represents a set of attitudes and actions noted as substantially aligned to the SEs' professional identity. Professional integrity summarises visible elements of the SE role, such as truth-telling, as well as, according to the participants' experiences, the unseen or inner identities of SEs.

4.2.6 Professional Integrity in the Performance of the SE Role

Participants' experiences related to their roles and identities as SEs exhibit a consistent purpose and sense of self pertaining to professional integrity. At times, professional integrity means persuading a buyer to adopt a solution when it is in their best interest to do so. At other times, this might mean advising a customer *not* to purchase a solution when a purchase could harm the buyer's interests.

As Fred's experience from a follow-up coaching discussion reveals, being able to engage customers in multiple facets of their business, both operationally and strategically, may allow an SE to gain trusted advisor status with a buyer based on their demonstration of professional integrity:

> Fred: *'Look, at the end of the day, being technical is one thing, but when you're actually in front of [the customer], and you have to raise existing risks and things that they need to be careful about, both operationally and strategically, that's how you build a relationship on trust. If you can get to "trusted advisor" status where you are not only working with them on one particular engagement, but you're talking about all sorts of areas in their business—that's when they keep calling you back'*.

Jonathan also described an action that he tested in front of an existing customer that grew out of a coaching discussion we had about the need to co-create value with customers in today's B2B selling environment (Eggert et al., 2018). Jonathan chose to take a calculated risk by (provocatively) pointing out that the products from Jonathan's company possessed no inherent value, but they only created value when put to proper use:

> Jonathan: *'I stood up this week in front of a customer and said, hey, listen. You know I'm from [Company B]. You already know I get paid to sell products from [Company B]. But I'm going to tell you something a little strange today: Our products don't really matter. Our products don't add any value to you or to anybody else. Then I just waited.* (long pause—big smile—laughter). *They only <u>become</u> valuable if they solve a problem for you! They couldn't believe I'd say something like that. And it really opened up the conversation to what THEY value'.*

In a follow-up coaching conversation, Alvin recounted his experience related to conflict between his sense of professional integrity and the pressure he felt when being asked to push a solution that he did not trust to create value or that he believed would not provide customers with their desired outcomes:

> Alvin: *'With [my old company], it was a case of—you know, guys, I just can't. I can't get behind the product. And that was a big part of why I left. The execs at [my old company] just didn't get it! I'll be going into someone's office in three years' time, selling something different from a different vendor; this is somebody who knows me personally. If I did that, they would take one look at me and go, <u>GET OUT</u>!* (said while pointing at an open door) *We're <u>not</u> buying from this guy, because he lied to us before!*'

The idea of truth-telling represents an experience that may act to shape and orient the SE's role and identity in a way similar to other professions (e.g. accounting, consulting, medicine) that must occasionally rely on delivering honest advice and sensitive information (Maister et al., 2000). According to the participants' experiences, when a foundation of trust has been built, the SE may engage in truth-telling related to uncomfortable information while protecting customer relationships and co-creating value with the customer. The participants and I both had the experience that in this demonstration of credibility, the long-term result may include the respect of buyers, sales teams, and managers, even if short-term disagreements occur due to slower deal closure.

Priscilla recounted a universally shared participant experience related to truth-telling. Priscilla first described what it was like to enter a customer engagement with a measure of built-in credibility based on being perceived as someone outside of the transaction—as an engineer. Priscilla further described the need for an SE to be trustworthy—worthy of the customer's trust—and to be seen as an individual there to act in the customer's best interests, even if that might cause some short-term supplier pain in the service of long-term buyer gain.

> Priscilla: *'My customers see me more as the person who won't lie to them just to get the sale, you know?* (laughter) *When they see me—and my role on my [business] card—it says engineer. Then, they don't think that I have anything to do with the transaction part of the sale. So, to them, they probably think I've come into the meeting to make sure there's no bullshit.* (laughter)'

In a follow-up discussion, David recounted an approach he had been trying with buyers. This approach was similar to those expressed by a majority of participants. The approach involved actively raising potential problems, gaps, or unknowns with customers related to solutions under consideration by the buyer. In contrast, salespeople may have been explicitly trained <u>not</u> to raise any questions, concerns, or objections that could prevent a customer from saying 'yes' to a solution.

> David: *'I been trying to actively expose the things that customers should watch out for as opposed to what the salesperson does, which is to try and avoid talking about those areas. Personally, I think that's a part of what it means to be a good SE. It's to be able to [engage in] the sales approach, but only up to a point—up to the point where it's realistic [for the customer]. You don't want to over-sell [a capability] to a customer or lose that trust and that relationship'.*

Like David, Priscilla outlined a growing awareness concerning truth-telling as an orientation towards having the customer's best interests in mind. Priscilla's viewpoint on being willing to tell a customer if and when the solution she has proposed might not be the best choice in a particular situation was not unusual amongst this group of participants. One of the distinct differences highlighting the potential disparity in professionalism between an SE and a B2B salesperson concerned this act of truth-telling. Truth-telling was an approach noted and encouraged by many participants based on their experiences as SEs.

> Priscilla: *'Look. You cannot just sell everything you have to every customer. Maybe the <u>best</u> solution for the customer is to <u>not</u> buy my product. I have to be willing to tell*

the customer when that's the case. In my experience, that's very different from what a typical salesperson would do '.

Having the professional integrity and ethical fortitude required to maintain a reduced self-interest and to preserve a high level of orientation towards positive customer outcomes is central to the SE roles and identities expressed by the participants of this study. The following section illustrates that, where participants have demonstrated a consistently high level of professional integrity, they are able to perform their roles more capably and ground their identities in the service of value creation.

4.2.7 How SEs Engage in Value Creation with Buyers

In many respects, value creation is the outcome most desired by B2B buyers (Lusch & Vargo, 2019). In the expectations of both buyers and suppliers, all of the experiences, approaches, skills, and behaviours examined within this study's findings ideally exist to create value for both buying and selling organisations through the design, delivery, and implementation of the proper solutions.

In a final coaching conversation with me, Oliver provided a perspective regarding how customers have brought value creation to the heart of the B2B buyer–seller engagements and approaches by suppliers to meet customer expectations:

> Oliver*: 'I see that my customers are driving a lot of the current business and selling transformation. So, that's been a little bit of an eye-opener for me sitting there in these conversations over the last weeks. I see now, it's not even [technology vendors] that are driving the change. It's the customers that are looking for these changes through the consumption models they use—it's inevitable. [Suppliers] are trying to catch up. We are trying to catch up because customers are already there'.*

Jonathan, Bob, and Quentin expressed viewpoints, grounded in their own experiences over a number of conversations with me. Rather than merely talking about the possibility of value creation, they raised the point that suppliers must take ownership when seeking to demonstrate value. Additionally, they expressed an emerging viewpoint that vendors must think about longer-term value creation that maximises benefits beyond the initial sale of a solution.

> Jonathan*: 'I'm trying to get to the point where we're not just talking about value, but [we're] actually delivering on the things that customers care about. Customers want instant results—customers want it now. And customers want it to be really cost-effective'.*

> Bob*: 'When I present [a solution design] to the customer, I want the customer to really see the value of [my company's] solution. At the same time, that solution should not only address the current pain point, but it also has to go beyond just considering today's requirement. We need to look into the future and consider how the solution will address needs in the future. Sometimes, customers are so focussed on fulfilling their own requirements for today, they miss out on the big picture about tomorrow'.*

> Quentin*: 'I'm trying to work on the skills so that, when I'm talking to a customer in the early stages of an engagement, I'm starting to formulate a strong connection to the business results. A strong commercial value proposition—not a technical one. So that when we are structuring a deal, it's good for the customer, and it's good for us'.*

Jonathan reflected on recent experiences in which sales leaders had become 'nervous' whenever he raised the idea of being more value orientated when engaging B2B buyers. In Jonathan's view, this nervousness by sales leaders seemed to indicate a potential bias towards maximising transactions rather than value creation. This contradiction between the words that B2B sales leaders use (i.e. the importance of customer value and outcomes) versus the actions that they drive in their sales teams (i.e. a focus on closing as many transactions as possible) is an area that is discussed further in Chapter 5.

> Jonathan*: 'We need to understand that if we lead with [value], it's counterintuitive, because our sales leaders are super nervous with that—our product guys get nervous with that too. But if we do actually lead with [value], THAT'S what resonates with customers. It opens the door for us to talk about what [customers] care about, which is* <u>*not*</u> *about our products. The products don't matter until you find out what's wrong.*

Seek those [customer] challenges, handle those [customer] challenges, create a roadmap to outcomes—not to a product. We have to create an outcome-driven roadmap with our customers'.

Robert and Ian, meanwhile, conveyed how they had actively and consciously adapted their approaches be more value-oriented in their engagement with buyers over the course of engaging in coaching discussions with me:

> Robert: *'I'm really working on trying to shift towards the "why" of a solution when I'm translating technology into business value. At the end of the day, all of the tech is fine, but when it comes to standing in front of the customer, it better not become a features discussion. I have to shift gears to the "so what" factor'.*

> Ian: *'<u>Now</u>, I really see that my role has evolved to where I have to be the <u>value</u> engineer who expresses <u>value</u>—which, for a customer, means reducing costs, improving revenue, improving cash flow, mitigating risk, or it could be employee experience or employee retention or whatever. That's what my role is <u>now</u>. It's just <u>lightyears</u> away from where I started as an SE'.*

Value creation is the outcome most desired by B2B buyers (Lusch & Vargo, 2019) and is an aim that the participants in this research have universally expressed a desire to achieve with, and for, their customers. It is in this area of value creation that the SEs in this study can be viewed as unconscious actors in the process of practically applying S-D logic to customer situations (Helkkula et al., 2012) in their role performance as sales engineers.

4.2.8 Conclusion – How SEs Experience B2B Buyer–Seller Dynamics

Section 4.2 has explored various lived experiences and actions by participants related to aspects of B2B selling such as team selling, customer engagement, solution design, trust-building, professional integrity, and value creation. Within the findings captured in this section, participants indicated the importance of approaches such as truth-telling and value orientation, along with an awareness of duality and synthesis, in the role and identity of the SE. The topics and themes that emerged from the findings outlined in Section 4.2 will be further discussed and interpreted in Section 4.3 as well as in Chapter 5.

4.3 Topical and Thematic Analysis of the Findings

The extensive transcription conducted throughout the data gathering phase of this study (see Figure 4.1), allowed me to immerse myself in the 'descriptive world of the participants in an empathetic way' (Peoples, 2020). This has allowed each description of experience or action offered by participants to be magnified, amplified, and contextualised as a part of the process of analysing the data (Creswell, 2013). Through the process of coding, clustering, and analysing the findings, drawn from the transcripts of participant engagements, two topics, each having six underlying themes, emerged from the participant narratives (see Table 4.2). In numerous overlapping instances, these topics and themes intersected with the areas explored in the literature review, such as changes in B2B selling, S-D logic, and the development of professional identities. These topical and thematic clusters reflect the way that the study's research questions have guided the approach to researching the following areas:

- The lived experiences of SEs as they establish, develop, adapt, navigate, and synthesise their professional roles and identities.
- How SEs experience this synthesis of the various aspects of their professional roles and identities.
- How SEs undertake identity work, and the factors that influence the construction, transitions, and adaptations that occur in their professional roles and identities.

The presence of these topics and themes contribute to a deeper understanding of the findings in pursuit of answers to the research questions guiding this study. In the first phase of analysis, two highly saturated topics (See Table 4.2) began to emerge from within the data: 1) the means and journey by which the participants had become SEs, and developed, in their sales engineering careers and 2) the experiences of participants when engaging with their sales teams and with buyers or customers in the process of developing solutions in the pursuit of value creation. In subsequent phases of analysis, clear themes began to emerge through examination of the coded areas of the data. The coded themes of the data that demonstrated the highest saturation were then grouped into topics (Saldaña, 2015). The topics were further refined by organising the significant themes within each topic into highly saturated thematic categories underneath each topic heading.

The concluding findings in Chapter 4 have been grouped into two topics, each containing six themes: 1) Topic A–SE Role and Identity Lifecycle and 2) Topic B–SE B2B Buyer–Seller Dynamics (See Table 4.2). These topics and their underlying themes emerged from the application of hermeneutic phenomenology and action research as methods to explore, interpret, contextualise, and illuminate the findings.

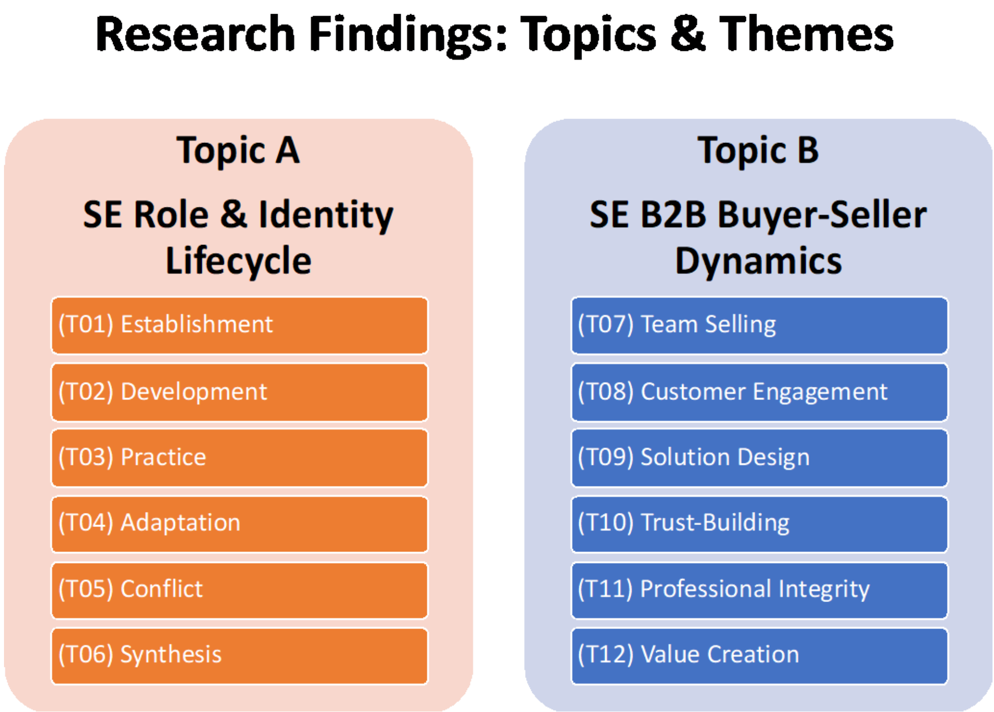

Table 4.2: Research Findings: Topics & Themes

The lived experiences of the participating SEs, the ways in which SEs must navigate and negotiate the 'collision' of the two 'worlds' of engineering and sales are illustrated in the findings gleaned from my engagement with the research participants. The distillation of these narratives is represented in the topical and thematic clusters in Table 4.2. The analysis and summation of these experiences outlined from Chapter 4 provides the basis for discussion and interpretation of these findings in Chapter 5. Chapter 5 also contains one of the key contributions of this work: a conceptual framework, drawn from the findings, across a range of competencies encapsulating the knowledge, skills, behaviours, and outcomes necessary for SEs to expertly perform their roles for the benefit of buyers and internal stakeholders.

4.4 Summary and Conclusion of the Research Findings

Chapter 4 introduced this study's core research data and findings, drawn from an examination of qualitative data generated through engagement with 18 sales engineers. In this chapter, the reader has been 'introduced' to the research participants through key lived experiences presented in the 'voices' of those participants.

The literature, my expertise, and collaboration with participants through interviews and action, all guided the examination of phenomena in pursuit of answers to the study's research questions. Topics and themes have emerged by illuminating crucial career-life experiences recounted by the participants in a series of individual interviews. The findings drawn from the participants' career-life experiences and various actions have helped to create a rich picture of what it is like to perform the role of sales engineer and to develop a professional identity as an SE. Exploration and interpretation of coded phenomena, subsequent topics, and ultimately the thematic elements of the data provide the insights from which this study offers contributions to both theory and practice that are discussed in Chapters 5 and 6.

Chapter 5 presents the discussion and interpretation of the findings related to the key topics and themes that have emerged from the research findings in Chapter 4:

- The lifecycle of SE role and identity development and evolution.
- The role and identity of the SE within the B2B selling process.
- A conceptualisation of the SE role and identity.

Finally, Chapter 5 aims to convey insights and contributions to the literature and to practice. A key contribution discussed in Chapter 5 is a conceptual framework of the SE role and identity. This conceptual framework covers particular aspects of the competencies, knowledge, skills, behaviours, and outcomes necessary to perform the SE role well.

Chapter 5: Discussion and Interpretation of the Findings

5.0 Introduction – Discussion and Interpretation of the Research Findings

Chapter 5 presents a discussion and interpretation of this study's findings and outcomes. To begin, Section 5.1 presents a discussion and interpretation of the research findings through the lens of the core theoretical frameworks supporting this study as drawn from the literature review in Chapter 2. Second, Section 5.2 and 5.3 outline conceptual frameworks related to the SE role and identity evolution lifecycle and the overall role and identity of the sales engineer, respectively. Section 5.4 discusses the practical application of the conceptual framework, while Sections 5.5 and 5.6 offer specific recommendations for sales engineering and managers of sales engineering organisations, respectively. Finally, Section 5.7 covers conclusions related to the research discussion and interpretation of the research findings.

By coding the participants' lived experiences, various phenomena were abstracted and organised under two topics that have been broken down into themes (see Table 4.2) that will be examined in Chapter 5:

1. The SE role and identity lifecycle
2. SE experiences within the buyer–seller dynamics of B2B selling

Finally, this chapter will include this study's key contribution to the literature and to practice– a conceptual framework of the SE role and identity.

5.1 The Research Findings in the Context of the Literature Review

The literature reviewed in Chapter 2 established a theoretical foundation for this study by drawing from three domains of scholarship by thoroughly examining research related to:

1. Business-to-business (B2B) selling
2. Service-dominant (S-D) logic
3. The study of identity

Certain aspects of this research study's findings and outcomes serve to reinforce or extend facets of the literature reviewed in Chapter 2. However, this study also seeks to make a contribution to the literature through the creation of new knowledge. Section 5.1 connects the research and actions utilised to support this study back to the theoretical foundations covered in the literature review. This study's findings are compared with foundational areas of the literature reviewed in Chapter 2.

In this chapter, the research findings and outcomes are viewed through three lenses: 1) the scholarly relevance of this study when compared to the study's theoretical connections (i.e. to the frameworks explored in the literature review); 2) the study's practical relevance through the lens of action research; and 3) the study's business relevance related to ways in which the research questions and the management problem might be adequately addressed. In each of the sub-sections (namely, 5.1.1, 5.1.2, 5.1.3, and 5.1.4), a comparison is made between single theoretical foundations or areas of research that were covered in Chapter 2. These include 1) B2B selling, 2) the evolving role of the SE, 3) S-D logic, and 4) the study of identity. After this comparison between the literature review and this study's findings, this chapter focusses on more specific applications of the study's actions, outcomes, and recommendations beginning in Section 5.2.

5.1.1 Changes in B2B Selling

The lived experiences interpreted and recounted in Chapter 4 indicate that sales engineers (SEs) participating in this research entered the study with a keen, pre-existing practical awareness regarding the substantial changes that have taken place—and continue to take place—in B2B selling (e.g. Ryals & Rackham, 2015; Syam & Sharma, 2018). These rising buyer expectations have discernibly and notably influenced the attitudes, approaches, and behaviours adopted by this group of research participants.

Participating SEs demonstrated their awareness of the changes in B2B selling—mainly through their own experiences and professional intuitions. However, participants also described their perceptions that managers often hold perspectives on the changes occurring in B2B selling that contrast with their own experiences. Differences between participant perceptions and manager points-of-view relate specifically to how SEs and managers perceive the importance of measurable value creation for B2B buyers. Participants have indicated that their managers may not possess an adequate awareness of the practical application and implications of value co-creation (i.e. S-D logic) in the way that SEs do.

Although the participating SEs were unaware of S-D logic as a theoretical framework (Vargo & Lusch, 2017), and thus do not fully grasp the theory, the participants demonstrated the *application* of S-D logic through descriptions of their actions. The term 'service-dominant logic' does not appear to be in common use in the participants' organisations, however evidence of the theory is apparent in the lived experiences of the participants. In practical terms, the participants exhibited a growing awareness of the real-world implications of S-D logic as they engaged buyers and their own B2B sales teams. The paradigmatic shift in how organisations and individuals engage in exchanges of value, as described by Vargo and Lusch (2006), is corroborated (in practice) within the lived experiences of the research participants.

Participants in this study universally rejected a product-centric view that defines value creation as an exchange of capital for goods in which product functionality dominates discussions and decisions by buyers (Lusch & Vargo, 2019). Participants demonstrated awareness of, and a propensity for, action towards adopting a 'solution-first' approach. The participants sought to describe, practise, and model behaviours that might exhibit the primacy of value creation through value-in-use in their engagement with buyers (Koskela-Huotari & Vargo, 2019).

5.1.1.1 Bridging the Knowing–Doing Gap for SEs in B2B Selling

Participants were encouraged to think critically and consider appropriate approaches related to the types of knowledge, skills, behaviours, actions, and outcomes necessary to meet buyers' rising expectations regarding value creation. Without conscious knowledge or awareness of the scholarly research related to the areas explored in the literature review (e.g. S-D logic; Vargo & Lusch, 2017), participants accurately described the phenomenon known in the literature as the technicisation of selling (Darr, 2006). However, this confirmation of the phenomena of technicisation was based on participants' experience 'in the field' with B2B buyers rather than a conscious articulation of the broader shifts in B2B selling.

The SEs in this study demonstrated self-awareness concerning the need for developing their knowledge, skills, and expertise within the business and financial arenas. Participants further reflected upon and asked for guidance in navigating what they referred to as the 'knowing–doing gap' related to competencies they viewed as necessary to the 'sales' aspect of their professional identities and roles, including business acumen, buyer value, and measuring customer business outcomes. Participating SEs additionally detailed their desire for increased levels of business knowledge, financial acumen, an expansion of technical knowledge, broader market knowledge, and more considerable expertise in customer outcomes.

5.1.1.2 Practical Considerations Related to the Technicisation of B2B Sales

It is highly likely that B2B selling will continue to change, evolve, and become subject to higher levels of technicisation over the next decades (Kaski et al., 2017; Rantala et al., 2020). These continued changes mean that supplier organisations must work to simultaneously meet today's challenges of B2B selling requirements along with the unknown challenges that will emerge in the future. In this way, identifying or developing individuals with a strong sense of self-awareness and adaptivity needed to navigate evolving B2B selling landscapes represents a critical action for managers (Pullins et al., 2017). The need to develop individuals in their roles and professional identities to support B2B selling as the practice becomes increasingly technicised (Darr, 2015) resides at the heart of the management challenge that motivated this study's formulation.

While none of the participating SEs had heard the term 'technicisation' (Darr, 2006) or any variation thereof, they were quick to acknowledge the reality of the phenomenon and to provide examples once they understood the definition of the phrase. Technicisation comprised an area that participating SEs were universally interested in understanding and acting upon in their own practices through further development of more robust customer-facing capabilities. Participants were also quick to describe experiences regarding how various customer influences, changing business requirements, and manager expectations have encouraged SEs to seek ways to accelerate business skill development.

Through recollections of their own experiences with increasingly technicised buyer–seller engagements (Darr, 2015), participants' lived experiences offered a rich picture of what customers value in their interaction with SEs. Buyers increasingly prefer engaging with specialists or experts (Kaski et al., 2017; Rantala et al., 2020) such as the SE based on a few key reasons: 1) the credibility that SEs can bring to solution- and outcome-driven conversations due to their depth of knowledge (Ashforth et al., 2008; Care, 2016); 2) the capabilities that SEs can offer customers through their hands-on experience with recommended solutions (Kairisto-Mertanen, 2017); and 3) the customer orientation and peer-level engagement that many SEs can offer (Alamäki & Kaski, 2015) in the pursuit of positive buyer outcomes (see Figure 5.1).

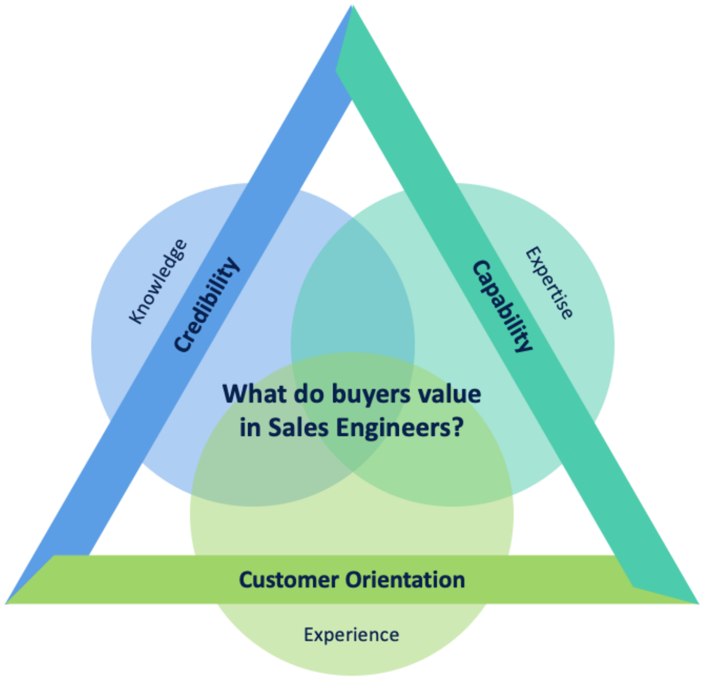

Figure 5.1: What Do Buyers Value in SEs?

One of the primary challenges faced by B2B suppliers in meeting B2B buyers' requirements involves an inability to deploy enough representatives who have adequate levels of both technical and business capabilities (Williams et al., 2012). Buyer frustration occurs when supplier representatives lack the breadth and depth of knowledge, expertise, and experience needed to fully understand 'value' as an outcome (Ulaga & Kohli, 2018). Equally frustrating to the buyer is the inability to deliver meaningful business outcomes (Vargo & Morgan, 2019). Through examining participants' experiences and actions, this study has shown that roles such as the SE have the potential to address increasingly technicised requirements when engaging B2B buyers, as hypothesised in earlier research (e.g. Darr, 2006; Reunanen et al., 2018; Ulaga & Kohli, 2018).

5.1.1.3 Impact of Team Dynamics in B2B Selling

In complex B2B relationships, the role of B2B sales teams assumes greater importance (Borg & Young, 2014). Participants in this research at times described the positive experience of working harmoniously with their generalist sellers (e.g. account managers). However, in descriptions and reflections of other experiences with generalist sellers, the participating SEs often expressed frustration with their sales counterparts. In this way, participants seemed to be of two minds regarding their sales colleagues. Generalist salespeople were portrayed as either a partner when 'opening doors' to customer value creation or as merely a necessary evil since they were mainly interested in closing transactions rather than customer value creation. However, generalist sellers were granted some toleration by their SEs due to their abilities, focus, and expertise concerning the commercial elements of the buyer engagement.

Based on the experiences and reflection of participants, the SEs in this study are keenly aware of the uniqueness of the SE role and identity vis-à-vis the generalist seller in the B2B sales team. Additionally, in reflecting on the team dynamic, participants raised a critical question as to whether sellers and managers possess a similar impression regarding the uniqueness of the SE role and identity within the B2B sales team. The participating SEs further reflected that significant gaps in team alignment might exist—most notably with the generalist seller and senior sales managers.

This team dynamic between seller and SE represents an essential connection and collaboration between 'actors' who must operate effectively in B2B selling (St. Clair et al., 2018; Vargo & Lusch, 2017). For sales teams to effectively satisfy rising buyer expectations and to practically demonstrate S-D logic through value co-creation, the partnership between sellers and their SEs requires improvement. Managers, especially those who do not fully understand or appreciate the SE's unique role in the B2B selling team, must also re-orient their understanding of how to support and evolve the working relationship between the salesperson and SE.

5.1.2 The Evolving Role of the SE in B2B Selling

This study's participants all expressed a highly consistent definition of the role that SEs play and the potential impact of the role. For example, Grant offered a definition of the role in

Section 4.1.3 and was quoted saying, ‘What I do day in and day out with my customers is to identify what their business problem is and then map that back to value. What value can be created or what value is being destroyed right now—and what happens if we do nothing? Then, I come up with the right solution to solve the problem and create value’.

Participants also described their sense of professional identity and the ongoing work of identity construction in highly consistent ways. The knowledge, skills, behaviours, and outcomes portrayed by the participants in turn served to further develop an understanding of how the SE role is played. This understanding of role portrayal served as a reflection of how construction of SEs’ professional identities may be encouraged. Ian described his experience with identity construction as follows: ‘As an SE, there’s going to be a shade of yellow—let’s call that technical—and there’s going to be a shade of blue—think of that as business. As an SE, that means when you blend those two things together, you are going to be green—your own shade of green. You could look at us and say we’re all green as SEs. That’s true, but the thing is—we’re different shades of green’.

Within their career-life narratives, each participant described experiences from early in their careers related to a dawning awareness of the existence of this profoundly different role called the sales engineer. The timing and circumstances surrounding emerging participant knowledge of the SE role seems to confirm the broad lack of awareness regarding sales engineering, in society at large, as portrayed in the literature (Reunanen et al., 2018; Ulaga & Kohli, 2018). This general lack of awareness concerning the SE role further reinforces the points raised in the literature concerning a need to standardise education, training, and professionalisation in sales engineering (e.g. Bumblauskas et al., 2017; Carberry & Baker, 2018; Darr, 2006).

When asked to reflect upon the research finding that none of the participants had any awareness of the sales engineering role before entering the workforce, participants offered consistently paradoxical responses. The common thread in these responses revolved around three key insights: First, the participants expressed regret that they had not been aware of the SE role earlier. The second (paradoxical) notion was that the participants might now be successfully navigating the demands of the SE role precisely <u>because</u> of prior work and life experiences before becoming aware of the SE role. Third, a commonly raised (paraphrased) question by several participants was, ‘Would I be the type of professional I am today—my role, my identity—if I had studied sales engineering in university and not "had a life" before becoming an SE?' Of course, there is no easy way to answer that question due to the diversity and interdependency of influences that serve to shape SEs' professional roles and identities (e.g. Hotho, 2008). However, given that several universities in Europe and North America have introduced sales-engineering programmes at the undergraduate level within the last two decades (Checkis, 2009; Dunn, 2009; Kairisto-Mertanen, 2017; Klein, 2009), engagement with graduates of these programmes offers an opportunity for future comparative research.

For participants in this study, the general lack of awareness regarding sales engineering was present prior to entering the workforce regardless of whether a participant had chosen to pursue 'pure' engineering education or if a participant was 'self-taught' in their technical skills. As participants shared their own experiences of becoming aware of sales engineering and the process of developing in the role, frequent interpretations and reflections amongst the participants were that, because sales engineering tends to operate in a grey area between sales and engineering, the role remains just under the 'radar' for many prospective SEs. This lack of role awareness persists despite millions of practising SEs operating across a wide variety of industries in B2B settings globally as well as a persistent shortage of qualified SEs (Görne, 2014; Torpey, 2011). This persistent problem of awareness, role and identity positioning, and a shortage of talent all represent macro issues affecting sales engineering (Reunanen et al., 2018). The solution to this problem will require the combined efforts of educators and B2B organisations to develop role formalisation, an end-to-end approach to developing SEs, and the professionalisation of the role (e.g. Röhr, 2016).

5.1.2.1 SE Career Progression

Collectively, participants distinguished three periods of time as related to their experience with the SE role: 1) the timeframe in which participants were completely unaware of the SE role; 2) the period after participants became aware of the SE role, but before they had begun to perform the role; and 3) the period of time after the participants became practising SEs and began to appreciate the distinctiveness of the role. During these periods of role progression, participants recalled an increasing focus on developing the confidence to demonstrate an understanding of business and the broader marketplace. Expansion of perspective and expertise related to the customer was also noted as a critical capability to engage buyers as peers or in the role of a trusted advisor (e.g. Reday et al., 2009).

When offered the opportunity to reflect on the nature of their roles and identities, the participating SEs considered the dual nature of what it means to be an SE (Darr, 2006). Contrary to the points presented by a few researchers in the literature, the SEs who participated in this research did not describe their experiences in the sales process with condescension (e.g. Hansen & Mouritsen, 1999). Instead, the participants recounted a desire and pursuit of guidance regarding how to develop themselves further in the areas of business, finance, and executive presence. Furthermore, the participants all recognised specific gaps in their knowledge, skills, behaviours, and actions related to business, finance, and customer communication. Rather than looking down on the 'sales' portion of their roles, participants exhibited a healthy curiosity and desire to develop in these areas of professional skill. These attitudes, behaviours, and actions related to professional development seem to represent an evolution in thought as compared to the group of SEs studied and described by Darr (2007)—namely, those who only desire to develop technically and who view the 'sales' part of the job as a step down from 'pure' engineering (Hansen & Mouritsen, 1999).

Similar to Darr's (2007) research subjects, the majority of this study's participants adopted an 'engineer first, seller second' orientation towards their roles and identities. Nevertheless, a distinct awareness of the need to play the role of 'businessperson' and to develop a consultative identity supporting the 'sales' portion of the sales-engineering role was universally noted in the SEs participating in this research. Participant awareness that there is both an opportunity and a potential challenge when seeking to strike an appropriate balance between these distinctive roles and identities might be interpreted as a step towards more effective synthesis of engineering and sales identities in these particular participants.

In Chapter 2, it was noted that B2B sales leaders characterise gaps in SEs' ability to synthesise their engineering and sales identities in performing their roles as a pressing issue (e.g. Dean et al., 2017). Due to the technicisation of B2B selling, the growing interdependence between technical and influencing skills was also flagged as a critical challenge for B2B managers (Kaski et al., 2017). Viewing the management problem through the lens of this study's findings, one might conclude that a contributing factor to these business challenges involves managers' failure to adequately understand and address the problem. In this sense, the management problem under consideration in this research is (in part) a 'self-inflicted wound'. A lack of B2B manager support for SEs' engagement and development in the sales or business-related aspects of the role could compound the issue at hand.

By examining the participants' lived experiences, one quickly notices the lack of formal training and development related to sales, customer engagement, and sales management offered to the participants. This insight is in line with how the literature portrays the training and development of SEs—namely, being focussed primarily on the technical details of products, capabilities, and solution implementation with little emphasis on how to engage the customer (e.g. Bumblauskas et al., 2017; Care, 2016; Darr, 2006). Paradoxically, as borne out in the literature, although customers tend to place a high value on the SE's technical knowledge and skills (e.g. Min et al., 2014), a lack of professional skill development and capabilities in the areas of communication, business, and financial skills presents a barrier to customer engagement that prevents buyers from taking advantage of the technical know-how of an SE (e.g. Darr, 2015).

5.1.3 The Relevance of S-D Logic to the Work of the SE

As a metatheoretical framework, S-D logic (Vargo & Lusch, 2016) is exemplified in the practice of sales engineering. Intuitive and practical applications of S-D logic are evident in the descriptions of lived experiences by this study's participants. Although the participating SEs could not recall ever having heard the term 'S-D logic' or its formal conceptualisation, each had developed instinctive approaches in their roles and identities that closely aligned with how S-D logic is framed in the literature. As discussed in previous sections of this chapter, the impact of buyer and organisational influences have served to shape these features of the contemporary practice of sales engineering. Participant experiences and subsequent actions demonstrating an orientation towards value co-creation, integration of resources, and recognition that solutions merely function as tools in the pursuit of value creation all significantly align with the concepts underpinning S-D logic (McColl-Kennedy et al., 2012).

Individual participant experiences and actions within this study have offered a living confirmation and reflection of what Vargo and Lusch (2004, 2017) theorised S-D logic to be. The participants offered highly consistent insights and reflections of their lived experiences that mirrored the various aspects of S-D logic. Although the terms and descriptions employed by participants in recounting their experiences differed from those utilised in S-D logic, they were synonymous with S-D language. In recalling their experiences, participants additionally reflected on personal approaches towards evolving away from transactions that emphasise ‘value-in-exchange’ (i.e. G-D logic; Ekman & Röndell, 2019) and towards the creation of ‘value-in-use’ (i.e. S-D logic; Eggert et al., 2018).

The SEs participating in this research further described developing instinctive approaches to customers, based in their own experiences, regarding the needs that buyers expressed for positive business outcomes and value creation. The mandate to deliver positive outcomes and measurable value to buyers represents a concept that each of the participants described as a critical need for buyers, but also as a responsibility core to sales engineering (Kaski et al., 2017). Practical approaches of this sort required participating SEs to demonstrate an understanding of customer business outcomes, keen technical awareness, in-depth knowledge, and hands-on experience related to the solutions required by their customers (Kairisto-Mertanen, 2017). These methods of engagement and value creation all align with the types of approaches envisioned as the practical demonstration of S-D logic (Vargo & Lusch, 2017).

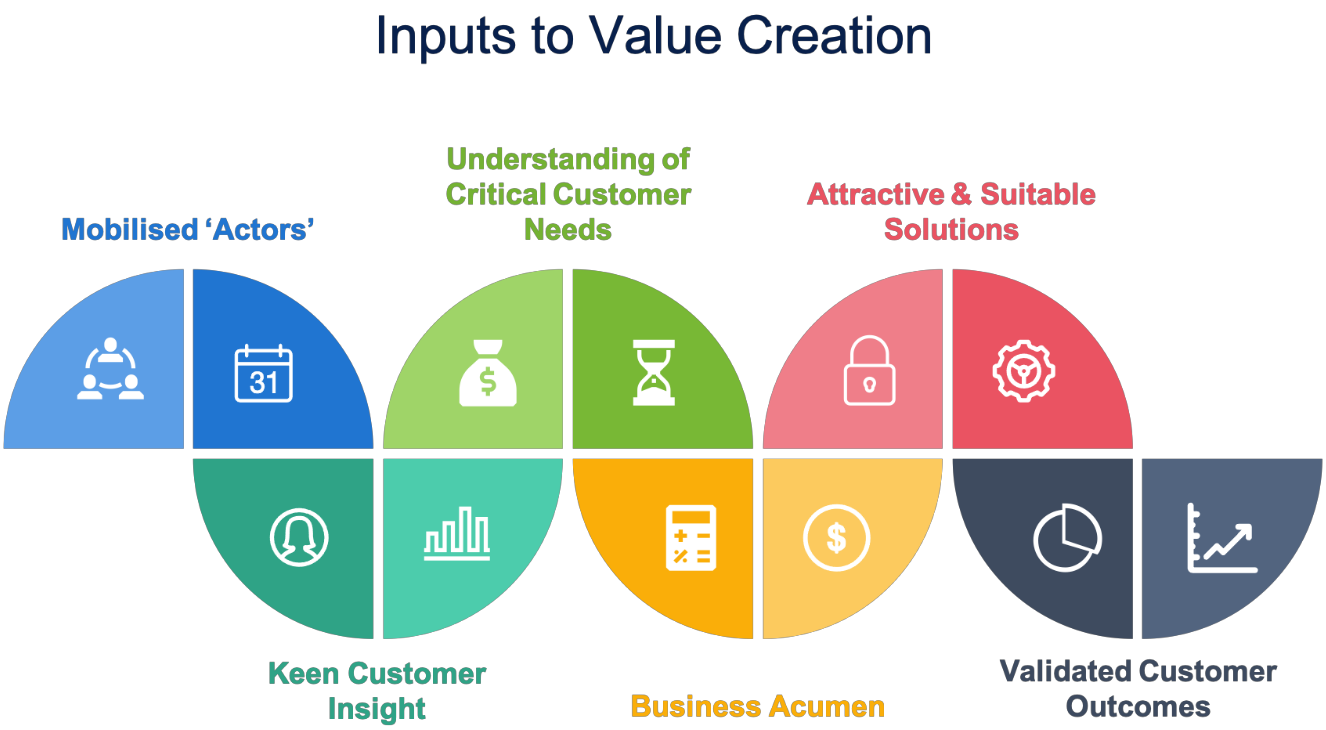

Figure 5.2: Inputs to Value Creation (based on Vargo & Morgan, 2019)

When engaging participants in further discussions regarding possible actions related to value creation, specific points were made concerning gaps in the know-how of participating SEs.

Participants expressed a desire to gain a deeper understanding of the ways in which buyers assess the economic value of solutions and how that value is measured and experienced in the business. With the notable exception of the two participants now promoted to management positions, exposure to the longer-term business and financial impacts linked to the deployment of recommended solutions was rather limited. Participants further discussed their desire to understand and act upon the ‘inputs’ to value creation (see Figure 5.2) more thoughtfully and consistently (e.g. Vargo & Morgan, 2019).

Through reflection on the participants’ collective experiences, and via follow-up discussions and dialogue, a consistent description emerged concerning the types of ‘inputs’ required to support the likelihood of an SE successfully co-creating value with a customer (see Figure 5.2). The buyer’s willingness to engage as an ‘actor’ in the value co-creation process was viewed as a foundational requirement (Vargo & Morgan, 2019). Additionally, participants noted that developing a keen understanding of customer needs and possessing deep insights related to the customer’s business were crucial actions when developing approaches with buyers (e.g. Piercy & Lane, 2012). Continuing, participating SEs believed that business acumen often serves as the ‘glue’ allowing the SE to bring together the right solutions for the customer in pursuit of achievable and validated customer outcomes (e.g. Darr, 2006).

A willingness to demonstrate truth-telling and professional integrity, even in uncomfortable situations or in instances where the best option for a customer might be to delay or forego the purchase of the supplier’s solution, is fundamental to the notion of S-D logic (Lusch & Vargo, 2019). Each of the SEs participating in this study offered examples from their own experiences related to the demonstration of a value orientation as expressed in their roles and identities as SEs. Participant behaviours such as consultative approaches, genuine curiosity concerning how best to deliver positive outcomes, empathy towards the buyer, and high levels of professional integrity all validate descriptions of what is necessary for supplier actors to catalyse S-D logic when engaging buyers (Sujan, 2012).

Examples regarding how practical demonstrations of S-D logic influence the process of B2B selling are seen within the participants’ lived experiences and actions. The approaches to B2B selling practised by the participants provide a window into the types of interactions theorised in S-D logic (e.g. Vargo & Morgan, 2019). As noted in the literature, value creation is challenging to observe phenomenologically due to the diverse, complex, and idiosyncratic nature of interpersonal 'inputs' to the value-creation process (McColl-Kennedy et al., 2012). Although the process of value creation is difficult to observe, a glimpse of value creation through the practical demonstration of S-D logic is encapsulated in the experiences of the SEs who participated in this study.

5.1.4 SE Identities

Sales engineers progress in their career journeys through a series of encounters with managers, groups, teams, customers, and other SEs, which shape the 'self' and encourage identity work (e.g. Erikson, 1950). This kind of professional identity work occurs in organisational contexts in which various influences conspire to encourage further identity construction and the pursuit of normalised organisational and professional identities (Marks & Scholarios, 2007). The following sections present various snapshots of these milestones in the SE identity journey through the career-life experiences recounted by the participants.

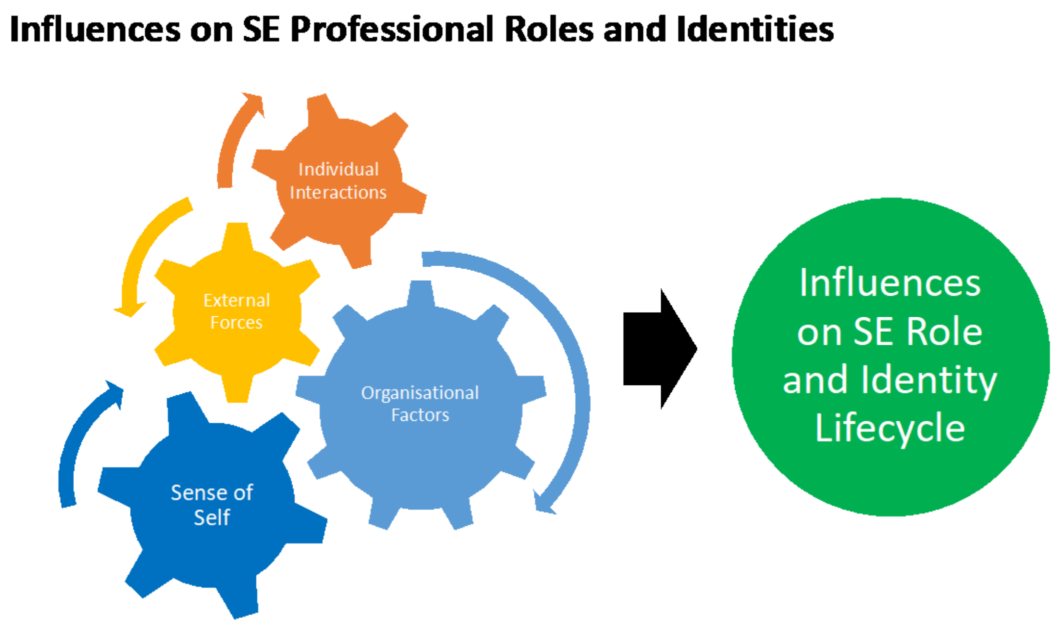

Figure 5.3: Influences on SE Roles & Identities (based on Erikson, 1950)

As previously noted, external forces (e.g. competition, market trends, economy), organisational factors (e.g. the SE's employer, buying organisations, partners), individual stakeholders (customers, managers, colleagues), and an SE's sense of self all produce different but overlapping influences on roles and identities (see Figure 5.3; e.g. Erikson, 1950). Engaging the participating SEs in the context of their lived experiences casts B2B organisations as part of a complex ecosystem with elaborate structures that have evolved within and across other organisations in a symbiotic fashion (e.g. Giddens, 1984, 1991). At the micro level, personal identities and the roles demonstrated by individuals (such as the research participants) both influence and are influenced by the broader B2B ecosystem. On the macro level, the objects contained within the B2B ecosystem, such as buying or selling organisations and groups, also both influence and are influenced by the individual actors who operate within the ecosystem (Skålén et al., 2015). Without a conscious awareness of the ecosystem operating around them, the participants in this research reflect (through their lived experiences) a reification of Giddens' (1984) proposed units of analysis—namely, the boundaries of interaction between individuals and groups.

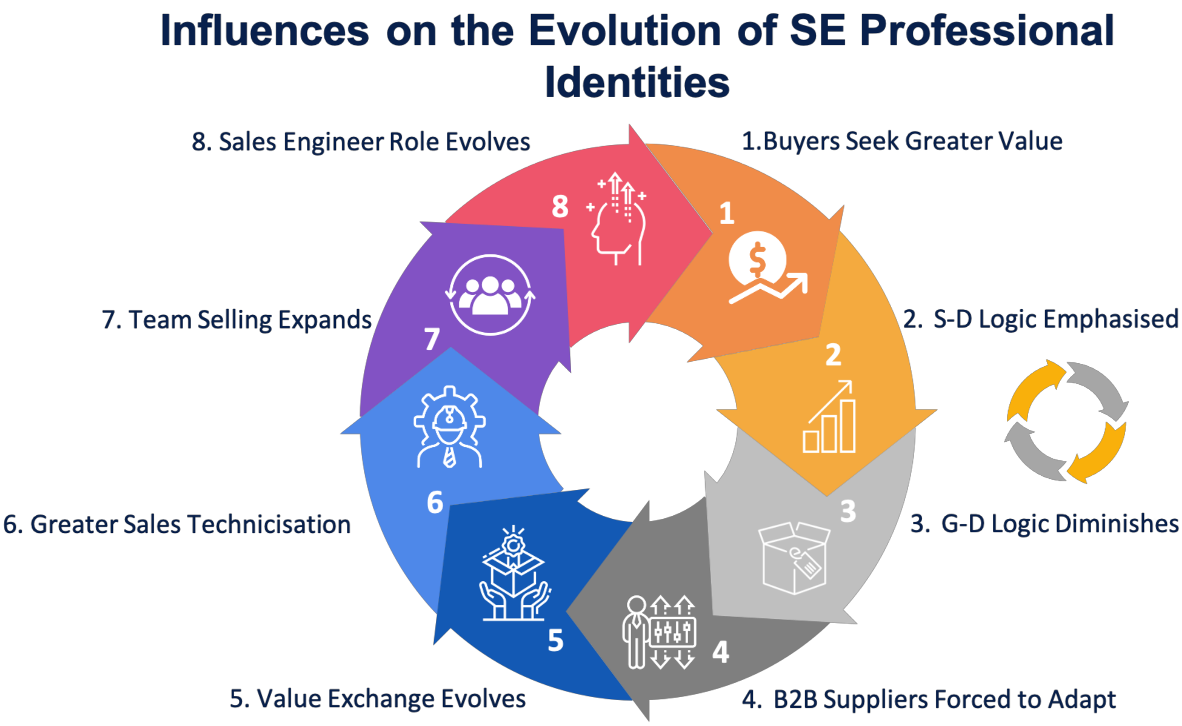

Figure 5.4: Theorised Influences on SE Professional Identity Evolution

Considering the participants' perspectives and experiences, numerous influences contribute to the evolution of SEs' professional identities and role performances. As buyers seek more significant value creation, we know from the literature and through the participants' lived experiences that, more emphasis is placed upon S-D logic and the credence given to G-D logic diminishes (e.g. Vargo & Lusch, 2017). This shift, in turn, forces B2B suppliers to adapt, and the nature of value exchange subsequently evolves from the idea that value can be created by exchanging capital for goods to one in which value is co-created through an exchange of services (Vargo & Lusch, 2006). In parallel, as selling undergoes technicisation, the need for team selling expands (Borg & Young, 2014; Darr, 2006). All of these factors (see Figure 5.4) compound to trigger further development and evolution of the SE role and underlying professional identity.

By engaging and interacting with the SEs participating in this study, a representation of the complex process of professional identity construction emerges (e.g. Vignoles et al., 2011). This study represents one of the first to conceptualise SEs' professional identity creation (Cortez & Johnston, 2017). This section has provided an overview of these influences and how they manifest in the performance of the SE role.

5.2 SE Role and Identity Evolution Conceptualised as a Lifecycle

Within the participants' career-life narratives, one notes the variable nature of professional identity (Ibarra & Petriglieri, 2010). For this group of SEs, recollections of their experiences support the notion of professional identity as a fluid concept that changes over time (Ibarra, 1999). However, as Burke (1980) surmised, for the participants in this study, the fluidity in professional identity only became self-evident after a long time in the role. Experienced professionals, such as the SEs in this study, adapt and transition their identities due to influences from external forces, organisational factors, individual interactions, and changes in the sense of self (e.g. Ibarra, 1999; see Figure 5.3). Guided by Burke's (1980) observations, the interplay of various behaviours at the boundaries of aspects of SE role performance represented units of analysis and points of action in this research (Giddens, 1984, 1991). These types of phenomena related to 'role-making' were employed as a frame of reference to conceptualise the ongoing evolution of the SE role and identity as a lifecycle.

Drawing on the thematic coding of Topic A (see Table 4.2) a sales engineer role and identity lifecycle is presented in this section. A close examination of the research findings, extending from relevant educational pursuits through to early career events and to the time that participants began to develop and practice their roles and identities as SEs, allowed the conceptualisation of this role and identity lifecycle to form. Figure 5.5 conceptualises the evolution of SEs' professional roles and identities as a recurring, six-stage, non-linear lifecycle. This lifecycle conceptualises the SE lived experiences through this process as the 1)

Establishment, 2) Development, 3) Practice, 4) Adaptation, 5) Conflict, and 6) Synthesis (abbreviated as EDPACS) of SE roles and identities in the service of B2B selling. The research findings in this study contained observable patterns of lived experiences related to roles and identities occurring along the rough career timeline within multiple EDPACS lifecycles illustrated in Figure 5.5:

- An early sense of self and desired educational or career direction
- Post-secondary education and work choices
- Establishment of early professional roles and identities
- A dawning realisation of the existence of the SE role
- Hands-on or practical experiences with technologies and customer solutions
- Practice and adaptation of the SE role and identity
- Reflection and action related to role and identity conflict
- Synthesising the duality of engineering and sales roles and identities

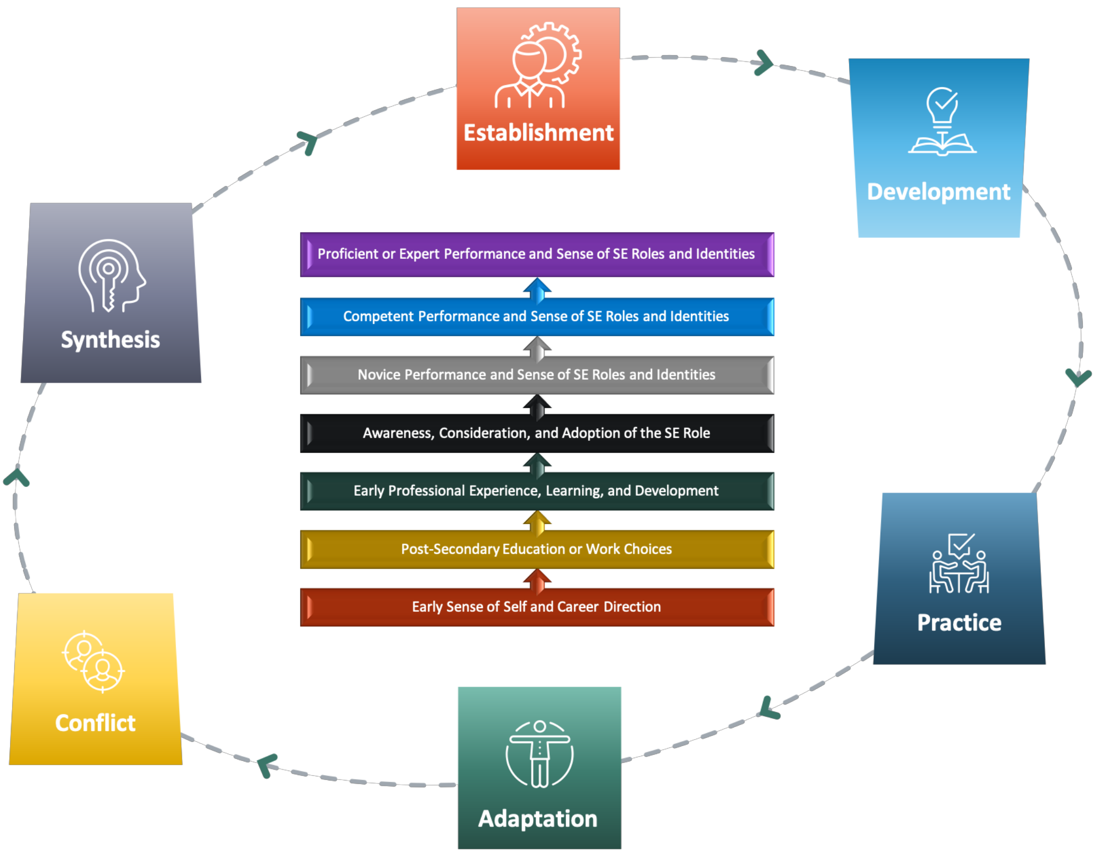

Figure 5.5: The EDPACS Sales Engineer Role & Identity Lifecycle

As a contribution to the literature and practice, this study envisions the EDPACS lifecycle as a way for scholars and managers to conceptualise the way that sales engineers experience the evolution of role performance and identity construction over progressive phases in their careers. This conceptualisation of the EDPACS lifecycle serves as a prelude to this study's key contribution to literature and practice from this study: a conceptual framework of the competencies, knowledge, skills, behaviours, and outcomes needed for SEs to expertly perform their roles in the process of B2B selling. This conceptual framework of the roles and identities of the sales engineer is discussed in the next section.

5.3 The Roles and Identities of the Sales Engineer: A Conceptual Framework

Prior to this study, little attention had been paid to formulating a conceptualisation of what an SE 'is' (i.e. identity) and what an SE 'does' (i.e. role). From the participating SEs' perspective, the opportunity to reflect on the SE's identity and role, both within the personal career-life narratives and through the application of action research, provided unique possibilities for new knowledge to be created. According to each of the participants, this was the first time they had consciously approached sales engineering to reflect on their inner sense of the professional self, outward reflections of professional identity, and taking action to frame SE role performance in this fashion.

In framing the initial findings of the primary research in Chapter 4, sharing initial findings with the participants, collectively reflecting on these findings, working with the participants to take action in their roles, and by conceptualising the way that sales engineers experience the evolution of role performance and identity construction over time (i.e. the EDPACS lifecycle), a conceptual framework of the SE role and professional identity emerged. The SE role and identity framework (hereafter referred to as 'the SERIF') illustrated in Figure 5.6 represents a key outcome and contribution of this thesis. The goal of the SERIF is to reflect both the inner professional identities constructed by SEs and the outward demonstration (externalities) of core capabilities revealed through knowledge, skills, behaviours, and outcomes.

The core capabilities identified in the SERIF represented in Figure 5.6 emerged from research findings that resulted from exploration and interpretation of participant experiences, reflections, dialogue, and actions undertaken in support of this study. These core capabilities summarise the knowledge, skills, and behaviours that influence SE professional identities and stimulate SE role performance. These core capabilities emerged as a distillation of the ‘raw’ conceptions contained in the research findings, and summarised as topics and themes in Table 4.2, drawn from participants’ career-life experiences. These core capabilities of aptitude, expertise, innovation, trustworthiness, buyer focus, outcome orientation, interpersonal impact, communication fluency, and sense of professional identity represent the knowledge, skills, behaviours, and outcomes required to be effective in the increasingly technicised world of B2B sales.

Sales Engineer Role & Identity Framework (SERIF)

Core Capabilities	Knowledge	Skills	Behaviours	Outcomes
Practical Aptitude	Breadth of Knowledge	Hands-On Experience	Engagement with the Customer as a Peer	Credibility
Deep Expertise	Technical	Engineering	Expert Engagement	Reliability
Innovativeness	Solution Understanding	Solution Design	Consultative Engagement	Tailored Solutions
Trustworthiness	Implications and Trade-offs	Truth Telling	Professional Integrity	Buyer Trust
Buyer Focus	Buyer Needs and Requirements	Buyer Engagement	Buyer Centricity	Buyer Confidence
Outcome Orientation	Business Acumen and Basics of Finance	Value Engineering	Value Orientation	Value Creation
Interpersonal Impact	Consultative Selling	Professional Guidance	Teaming	Trusted Advisor
Communication Fluency	Communication Styles and Approaches	Communication Capabilities and Delivery	Modulation of Content, Presence, and Tone	Knowledgeable and Confident Buyer
Sense of Professional Identity	Self-Awareness	Self-Efficacy	Role & Identity Synthesis & Adaptation	Appropriate Balance of Technical and Sales

Low → High

Externality of Sales Engineer Professional Identity and Role Performance

Figure 5.6: A Conceptualisation of the SE Role and Identity

Relative to this study, the SERIF serves at least four purposes:

1. Provides the first complete conceptualisation of the way the SE role is performed in increasingly technicised B2B selling practices.
2. Offers a ‘mirror’ to aid in ‘reflecting’ the types of role-specific influences on the construction of SEs’ professional identities.

3. Serves as a roadmap for managers or educators to use in the development of aspiring, prospective, or current SEs.
4. Orients managers and other stakeholders towards an improved conceptualisation and utilisation of the SE role and identity.

Figure 5.6 clarifies these core capabilities by summarising the knowledge, skills, behaviours, and outcomes necessary for the successful development and demonstration of these core SE capabilities. Examining how the performance of capabilities progresses from knowledge through to skills, behaviours, and finally outcomes, demonstrates how the core SE capabilities become incrementally more outwardly visible as externalities of SE identity. Knowledge, skills, and behaviours are within the SE's control to establish, practise, and adapt through identity work and role performance. Demonstrations of knowledge, skills, and behaviours further serve as increasingly visible inputs in the process of customer value creation. Outcomes that are demonstrated and delivered by performing the SE role are highly visible and comprise the resulting outputs from the competent application of core SE capabilities in the service of customer engagement and value creation.

5.4 Practically Applying the SE Role & Identity Framework

The practical application of the SERIF in Figure 5.6 can serve to catalyse the implementation of S-D logic. In this sense, the SERIF can serve as a roadmap for practical application of S-D logic. Based on the conclusions drawn from this research study, a full embrace of S-D logic, including directly applying the SERIF, may appear as a radical departure from 'business-as-usual' for managers of B2B organisations. However, managers must recognise the paradigmatic shift that has taken place in the way that B2B buyers purchase and consume services in the pursuit of value (e.g. Syam & Sharma, 2018; Vargo & Lusch, 2017).

Sales engineers are in an ideal position to enact new approaches to value creation by challenging traditional views—possibly strongly held views—grounded in G-D logic. These approaches might involve demonstrating buyer approaches that are more empathetic, ethical, and trustworthy. While B2B managers may fear that short-term results could suffer if SEs seek to fully 'become' the type of professional portrayed in the SERIF, buyers are already demanding that suppliers work with them in this way (e.g. Kaski et al., 2017). Supplier organisations that fail to apply these approaches practically will risk being left behind as business models transform (Darr, 2015). Applying S-D logic, meanwhile, will involve encouraging the SE to fully demonstrate professional integrity, truth-telling, and a professionalised duty of care with a wider variety of B2B buyers.

It is essential for managers and SEs to consider the ways in which they should practically apply the SERIF as separate efforts for role and identity. Professional identity is constructed based on an individual's ability to be introspective and to answer the question 'Who am I?' as a professional (Vignoles et al., 2011). When individuals such as SEs take the time to be introspective and progress their introspection towards answering questions such as 'Who do I want to be?', these individuals can make choices to construct their professional identities and act out particular roles. In this sense, the SERIF will allow SEs to actively apply these characterisations of the SE identity and role to their professional identity work and to subsequently demonstrate new knowledge, skills, and behaviours that will benefit buyers.

5.5 Areas Identified for Improvement in Sales Engineering

In considering areas for improvement and more consistency in professional development, the participating SEs all acknowledged the critical importance of core capabilities related to technical expertise, solution innovation, and trustworthiness with buyers. These areas currently form a set of foundational capabilities (e.g. Figure 5.6) and represent the basis for the credibility and confidence buyers tend to assign to SEs (e.g. Care, 2016). However, in examining and reflecting upon the research findings it is my view that the most significant opportunities for improvement in the practice of sales engineering centre on three categories:

1. Understanding the buyer's business situation, challenges, and opportunities
2. Improving business and financial acumen to support customer value creation
3. Professionalising sales engineering

Participants outlined four specific gaps related to their collective understanding of the situations, challenges, and opportunities facing buyers. To begin, participants expressed a desire to strengthen their professional credibility and to demonstrate a greater understanding of the buyer economically, organisationally, technologically, and competitively. In these areas, participants selected several options for post-research action: enrolling in business or finance courses online, befriending buyer contacts outside of the SE 'comfort zone' in business or finance management, engaging buyer contacts with more significant curiosity regarding the business or organisation and completing the necessary ‘homework’ to develop greater depth and breadth of understanding concerning the buyer’s business.

5.6 New Approaches for Managers of Sales-Engineering Functions

By examining the findings and outcomes of this research, managers may find that new B2B sales approaches are needed. This realisation becomes particularly relevant as it relates to how sales engineering is understood and applied in buyer engagements. If managers view the SE’s role as merely technical or if, conversely, they see the SE as merely another type of ‘seller’, then they will not enjoy the full benefit of the role. Managers should adopt the view that the SEs operating with buyers are there to design approaches to value creation through the appropriate applications of solutions (i.e. products and services). This change of view might seem like a subtle shift in thinking, but it implies a significant evolution towards the practical application of S-D logic (e.g. Vargo & Morgan, 2019).

The types of value co-creation that buyers aim to achieve, and which S-D logic describes, require long-term commitment to buyer success (e.g. Sheth & Sharma, 2008). This commitment to long-term value co-creation is not the domain of short-term transactions; rather, a short-term focus (e.g. being hyper-focussed on the monthly or quarterly ‘number’) is, in my experience, the domain of G-D logic. Not every organisation is equipped or prepared to embrace S-D logic. Equally, not every customer is interested in value co-creation. Where this potential barrier towards a value orientation exists, managers must decide whether embarking on a long-term transformation towards an evolved view and pursuit of value is worth the effort. Managers seeking to deploy SEs in the pursuit of value co-creation will need to (eventually) decide on a singular approach to buyer engagement—namely, one that is either service-dominant or goods-dominant.

For managers experiencing challenges related to sourcing, developing, and retaining SEs in their business, the first area that might need to be examined concerns the level of commitment to value orientation in the B2B sales organisation. By directing part of the organisation to pursue an S-D approach while continuing to direct generalist sellers in a G-D fashion, it is my view that managers perpetuate and exacerbate the management problems considered in this study. It is also my view that mixed messages, approaches, and incentives frustrate individuals operating in roles like the SE, in which professional integrity, truth-telling, and customer outcomes are core to an individual's sense of professional identity and self.

5.7 Conclusion – Shaping the SE Role to Support Better Business Outcomes

In the midst of rapidly accelerating changes in B2B commerce, participants, managers, and the 'system' in which these 'actors' operate related to the practice of sales engineering are all evolving. Roles and identities associated with sales engineering are shifting due to societal and group pressures. In turn, these changes can set in motion a causal chain reaction originating from the desire for more significant and predictable value creation on the part of buyers, acting to further shape SEs' roles and identities as they practise their craft. The notion related to the action research undertaken in this study was that, by acting upon any link in the causal chain, the participants and I (collaboratively) might successfully influence or change the 'inputs' to the process (e.g. knowledge, skills, behaviours), thereby influencing or changing the outcomes of the process itself. In this way, the result is to encourage the co-creation of higher levels of measurable value that benefit both buying and selling organisations. These areas are discussed next in Chapter 6.

Chapter 6: Conclusions, Reflections, and Implications

6.0 Introduction – Conclusions, Reflections, and Implications of the Research

The final chapter of this thesis considers conclusions, reflections, and implications of the study. Section 6.1 revisits the research questions that have guided this study and proposes answers to these queries. Section 6.2 outlines this study's contribution to knowledge and practice via the creation of new knowledge related to the practice of sales engineering. Sections 6.3 and 6.4 provide an overview of limitations associated with this research as well as opportunities for future research, respectively. Section 6.5 offers my personal critical reflections on the research journey undertaken in this study. Finally, Section 6.6 offers concluding remarks related to this thesis.

6.1 A Return to the Research Questions

Prior to this study, little scholarly research had focussed on the practice of sales engineering. One of the goals of this study was to contribute to the B2B sales literature by addressing current gaps related to the practice of sales engineering (e.g. Darr, 2003; Donnell et al., 2011; Sharma et al., 2008; Storbacka et al., 2009). Three research questions arose from the comprehensive review of the literature outlined in Chapter 2.

The examinations, interpretations, and actions undertaken through the application of hermeneutic phenomenology and action research have generated qualitative data concerning what it is like to 'be' an SE. The following sections of this chapter summarise insights and conclusions put forward in pursuit of answers to the three research questions at the heart of this thesis.

6.1.1 Research Question One – Lived Experiences

Research question one (RQ1) concerns the cycles of experiences that practising SEs live through in their work lives. To this end, the participants' lived experiences were explored, interpreted, and illuminated at the 'boundaries' of interaction with individuals and groups. These interactions are described as the most viable units of analysis when examining various aspects of behaviours, such as role performance (e.g. Giddens, 1984, 1991). These interactions offer further reflection of professional identity work and the construction of the inner sense of self.

> *RQ1: What are the lived experiences of expert technical sellers, like SEs, as they establish, develop, and practise, their roles and identities in B2B selling?*

This research question arose from the literature review and the work undertaken to accurately locate the management problem that inspired this study. Managers seek to address the significant changes in B2B selling, such as technicisation and the move towards approaches to value creation that are increasingly informed by service-dominant (S-D) logic (e.g. Marcos-Cuevas, 2018; Vargo & Lusch, 2014). Deployment of more SEs has represented one way that managers attempt to address the challenge of technicisation. However, research related to the role or practice of sales engineering has been minimal (e.g. Darr, 2000, 2002, 2006). In response to this gap, a practical exploration into how expert SEs perform their roles and construct their professional identities seemed a logical first step towards addressing this research question and the associated management problem. Research question one also represents a critical foundational step required before considering any other questions related to SEs or sales engineering.

The lived experiences of 18 research participants, each of whom are 'experts' in the SE role, were all examined through their career-life narratives and action research. Each participant provided a portion of what would eventually form a rich picture of the SE role and identity lifecycle (see Figure 5.5), comprised of role and identity establishment, development, practice, adaptation, conflict, and synthesis (i.e. EDPACS). Sales engineers experience this lifecycle as a recurring, six-stage, non-linear cycle of role performance and identity construction over the progressive phases of an SE's work-life.

The phenomena described by participating SEs as 'lived experiences' in the performance of SE roles and the construction of professional identities were noted, interpreted, and coded as topics and themes in support of the research (see Table 4.2). These lived experiences aided in the formation of a rich picture of the SE practice across the two significant dimensions of 1) the SE Role and Identity Lifecycle; and 2) SE B2B Buyer–Seller Dynamics. By examining and taking action within these dimensions, this study's findings reflect what SEs experience in their inner identity work, as well as how SEs navigate identity conflict, synthesise the role's potentially conflicting nature, and subsequently perform the SE role (see Figure 5.6). The dimensions of the SE role and lifecycle as well as the SE B2B buyer-seller dynamics supported analyses of the phenomena and the subsequent actions taken to refine this study in search of answers to research questions two and three.

6.1.2 Research Question Two – Impact of Technicisation

Research question two focusses on how changes in B2B selling are experienced by practising SEs. This line of inquiry also seeks to understand the practical implications of how evolving value exchange and shifts towards S-D logic in B2B selling have influenced SEs.

> *RQ2: How does the increasingly technicised and value-oriented B2B buyer–seller environment influence the role performance, professional identity development, and professional practice of expert technical sellers such as SEs?*

The explorations and interpretations of participants' lived experiences reveal a keen awareness of shifts in B2B selling in the form of technicisation and the evolution of value exchange towards more service-dominant (S-D) rather than goods-dominant (G-D) approaches (Nariswari, 2019). Examinations of participant experiences in this research further indicate that these changes in B2B selling have motivated SEs to become more business-oriented, financially savvy, and focussed on customer value and outcomes.

However, SEs perceive that managers and generalist salespeople are acting in a more transactional manner by holding onto G-D approaches to B2B selling that are rooted in older styles of buyer engagement. Participant perceptions concerning the ways that managers approach the value-creation process matter greatly, since manager actions influence SE identity construction and role performance in the context of buyer engagement and value creation. If SEs perceive that managers and generalist sellers do not possess the awareness, desire, or willingness to support or pursue buyer engagements that are informed by S-D logic, this sends SEs a mixed message concerning the importance of value creation and positive business outcomes for the buyer.

Additionally, it is clear from the research findings and outcomes that the participating SEs recognise how establishing a strong duty of care for their customers represents an integral part of the SE's professional identity and role performance. The depth and seriousness with which the participants take this duty of care are consistent with behaviours described in professions such as medicine, the law, or accounting (e.g. Maister et al., 2000). Participants were also consistent in outlining how the influence of buyer expectations related to value creation and business outcomes served to encourage the outward demonstration of professional integrity, truth-telling, and care for the buyer's business.

The focus on the duty of care for buyers represents an area of potential benefit for managers and their organisations. However, participants perceive that this part of the SE role and identity is not fully appreciated or understood by managers or other stakeholders (e.g. generalist salespeople) in B2B sales organisations. In other professions, by contrast, this duty of care might be structured and supported through codes of conduct, professional associations, certifications, or accreditations (Ibarra, 1999). In this regard, SEs have an opportunity to undertake work to 'professionalise' their role.

The following section of this chapter builds on the viewpoints expressed regarding research questions one and two by addressing the question of how best to conceptualise the practice of sales engineering in the context of SE professional identity and role performance.

6.1.3 Research Question Three – Conceptualising and Framing the SE Role

Research question three guided the work toward conceptualising the roles and identities of SEs as a framework of capabilities. Furthermore, I considered ways in which this conceptualisation might contribute to the literature and be of practical use to SEs and managers.

> *RQ3: How might SE professional identity development, role performance, and practice be conceptualised and framed to support a more consistent and professionalised approach to sales engineering?*

Chapter 5 introduced the reader to a conceptual framework of SE professional identity and role performance (i.e. the SERIF). This conceptual framework represents an essential outcome of the research (see Figure 5.6). This conceptualisation attempts to provide a framework to 1) reflect an interpretation of the inner professional identity work being undertaken by the SEs who participated in this research and 2) to classify the knowledge, skills, behaviours, and outcomes of the capabilities or competencies observed within the narratives of participants' lived experiences.

The several facets of core capabilities outlined in the SERIF represent opportunities for managers and their SEs to adapt approaches towards learning, development, mentoring, and coaching. The goal of the interdependent acquisition, demonstration, and achievement of the knowledge, skills, and behaviours in each of these competencies is to achieve more desirable outcomes for both buyer and supplier organisations. With the SERIF available, the managers and team leaders who participated in this research were approached with this new information and these new insights. Although outside this study's scope, each of the participating managers and team leads expressed interest in acting upon the recommendations and 'embedding' the SERIF in their own practices. These follow-up actions and engagement with the research represent an opportunity to work towards additional action research cycles that might result in an entirely new research study.

The conceptualisation of the roles and identities demonstrated by expert SEs is not merely a description, or a snapshot in time, of the participants' lived experiences. Rather, the SERIF is offered to scholars and practitioners as a generalisable roadmap for managers and SEs to encourage organisations to introduce, evolve, or strengthen the practice of sales engineering in B2B selling. Professional roles and identities are not 'substances' that can be examined, described, catalogued and then remain inert. Instead, professional roles and identities are constantly evolving based on the countless influences that shape individual, organisational, and group identities (Sveningsson & Alvesson, 2003; Driver, 2006).

The framing and conceptualisation of the SE role and professional identity, in answering RQ3, offers practical benefits in at least three areas:

1. Categorising the knowledge, skills, behaviours, and outcomes of expert SEs.
2. Providing managers with a view of the roles and identities of SEs that support their efforts to source, develop, deploy, and retain SEs as they seek to meet increasingly technicised B2B sales requirements.

3. Moving sales engineering towards greater professionalisation and greater consistency in both the practice and perception of sales engineering by enacting the SERIF, role conceptualisations, and enactment of relevant manager and SE recommendations.

6.2 Contribution to Knowledge and Practice

One intent of this study was to make specific scholarly and practical contributions by creating new knowledge related to sales engineering. The research conducted in support of this thesis represents one of the few scholarly inquiries into the professional identity of the SE and the role of sales engineering (e.g. Darr, 2000, 2002, 2006).

This study's findings and outcomes represent a contribution to knowledge for managers who suffer from 'blind spots' related to their understanding, positioning, and application of sales engineering in their organisations. By understanding the EDPACS lifecycle (see Figure 5.5) and activating the SERIF presented in this work (see Figure 5.6), managers have the opportunity to implement new approaches for sourcing, developing, and retaining SEs in their organisations. This conceptualisation of SEs' roles and identities, drawn from the examination and interpretation of expert-level knowledge, skills, and behaviours exhibited by practising SEs, represents a new contribution to both scholarly understanding and practical application of sales engineering in B2B sales.

Furthermore, this work has made a contribution to the literature in the broader research domains of B2B selling, S-D logic, and professional identity by providing specific examples of possible applications of certain theoretical frameworks in practice. By reflecting on the inner professional identity work conducted by SEs along with explorations and conceptualisations of the outward demonstrations of the SE role, scholars will find some benefit by considering how midrange theories such as S-D logic are practised by professionals like the SE.

6.2.1 Implications for the Practice of Sales Engineering

With the experiences of the SEs who participated in this research as a guide, practising SEs should wish to reflect upon the nature of their professional identity work and role performance. The participants in this study were not in the habit of regular self-reflection concerning their professional identity and role performance. However, by engaging in the research and taking action related to certain areas of professional identity and role performance, participants had the opportunity to reflect upon the need to continually develop the knowledge, skills, and behaviours necessary to navigate the increasingly technicised B2B landscape.

For SEs, the evolution of B2B selling represents both an opportunity and a threat. For those SEs who desire to increase their relevance and value to buyers, one can interpret from the findings that investing time and energy in strengthening business-related knowledge and skills represents a worthwhile activity for any SE to take. Coupling business and financial acumen with a high degree of hands-on technical expertise will further allow SEs to engage a broader set of relevant buyers and to be viewed as a peer in the pursuit of positive business outcomes and value co-creation.

Within this study's findings and outcomes, development emerged as a critical component of the SE role and identity EDPACS lifecycle. Additionally, development was also presented as a never-ending process within the participants' career-life narratives. The continual nature of development is due (at least in part) to a combination of the dynamic nature of the SE role in B2B buyer engagements, the high expectations that buyers have for SEs, and the perishable nature of the knowledge, skills, and subject matter expertise demanded of SEs as they practise their profession. With this in mind, SEs need to ensure that thoughtful, meaningful, and planned approaches to professional development are regularly discussed and scheduled with managers, mentors, and coaches.

Sales engineers have the opportunity to balance and synthesise critical facets of their professional identity construction and role performance. The need for balance and synthesis is grounded in an SE's ability to expertly navigate the facets of technical expertise and business acumen. Practising SEs will find it useful to discuss their experiences related to this balancing act or synthesis between the two 'worlds' of engineering and sales. Furthermore, managers, mentors, and coaches are in a position to engage with individual SEs or teams of SEs in ways similar to the action-oriented coaching, mentoring, and teaching postures deployed during this research study.

6.2.2 Implications for Managers of Sales-Engineering Functions

By comprehensively surveying the literature, exploring the wide variety of influences on ways that SEs perform the role, and acting to test specific approaches with practising SEs, it seems that there are broader managerial implications to consider as an outcome of this study. For example, the digitalisation of business and the evolution of B2B markets, commonly referred to as the Fourth Industrial Revolution (e.g. Ritter & Pedersen, 2020), are producing a first-order impact on the core business models of buying and selling organisations (Skålén et al., 2015). Within the B2B buyer–seller dyad, buyers now possess far more power and control over how value is exchanged based on the way that customer solutions have become more standardised, portable, and service oriented in a rapidly digitalising global economy (Syam & Sharma, 2018).

Amidst this evolution of B2B selling, managers will glean from this research (and in their own practices) that a paradox is occurring related to the shift in buyer expectations towards value informed by S-D logic (e.g. Lusch & Vargo, 2019). While buyers desire value co-creation, managers (particularly sales managers) in many B2B organisations may be paying 'lip service' to the desires expressed by these buyers. If managers fail to recognise or respond to these changes in the B2B landscape driven by buyer expectations, this will serve to exacerbate the management challenges organisations are facing in this context. Where these types of paradoxical attitudes exist, SEs might also be subjected to increased role and identity conflict (e.g. Flaherty, 2012) when sales objectives are at odds with the sense of professional integrity, value orientation, and duty of care central to the professional identities constructed by many SEs.

Managers should consider using the conclusions, interpretations, and recommended actions described in this study to reflect on whether these findings and outcomes might produce some generalisable impact if applied in their organisations.

The following two sections of this chapter cover this study's limitations as well as opportunities for future research. These limitations and opportunities for future research should also prompt managers to critically reflect on practical aspects of their approaches towards changes in B2B selling and their views of sales engineering.

6.3 Study Limitations

The research conducted in support of this thesis was subject to certain limitations. Primarily, this study was (intentionally) limited in scope due to the amount of time that could reasonably be devoted to the research. As a qualitative methodology, research approaches to hermeneutic phenomenology tend to go 'deep' when studying the objects or focal points of the research. By seeking to explore and interpret the lived experiences of research participants, this naturally limited the number of participants that could reasonably be engaged in this study.

Action research of the sort conducted in this study is time-consuming depending upon the nature and depth of the actions taken. In this study, sufficient time was available to allow a cycle of action research to be fully enacted with the group of participating SEs. Within this cycle of action research, new insights emerged, and participants reported a perception of greater confidence and control related to their 'inputs' of practical actions and activities. This research (particularly the action research) was conducted as part of a professional (practical) doctoral (scholarly) DBA programme. Perhaps it is through these types of professionalised approaches to academically rigorous research that the type of insights that emerge in the literature might make their way into professional practice more quickly.

Due to the limitations already outlined, this study involved a relatively small and homogenous group of SEs. All of the SEs were from the same industry (high technology) and, although diverse in experience, all focussed on buyers located in the same part of the world (Singapore and Southeast Asia). Additionally, the participants were all long-time SEs operating at the level of 'expert' in their field. The participants' deep expertise sharpened the research focus and helped achieve saturation during the data-collection phase of the research. However, the participant demographics may have limited the possible responses, experiences, and data points collected in this study.

6.4 Opportunities for Future Research

Throughout this study, certain research pathways presented themselves as topics that might be more appropriate for future studies. This section briefly outlines and discusses these potential opportunities for future research.

During this study, several new research opportunities within the category of B2B sales presented themselves. An area that remains underrepresented in the literature concerns team selling and the associated team dynamics in B2B sales. Areas of possible study involving future 'team selling research' might include 1) topics such as ideal team constructs, roles, or responsibilities in complex B2B selling situations; 2) competition, conflict, and cooperation between SEs and generalist sellers; 3) in-group and out-group dynamics (e.g. different types of groups within the B2B sales team); and 4) action research that engages the B2B manager in the context of technicisation or relates to the practice of sales engineering.

Specific topics presented themselves as opportunities for future research concerning the role of the SE or sales engineering more broadly. These included the important topic of gender diversity in sales engineering and potential action research related to improving gender diversity in sales engineering.

Gender diversity has been a particular problem in many scientific, technical, engineering, and medical professions in many parts of the world (Guerrier et al., 2009). Sales engineering is no exception to this challenge. In this study of 18 participants, only one female SE collaborated in the research. The chance to engage with an organisation to actively research ways to improve this situation could represent a unique opportunity.

Similarly, researching the lived experiences of female SEs through cycles of establishment, development, practice, conflict navigation, and synthesis in their roles and identities could extend this study by comparing these experiences to those of male SEs. These comparisons might further uncover insights into how managers might encourage more female participation in sales engineering and at earlier points in their careers (i.e. before university, during university studies, or during early work experience).

Additionally, research (particularly action research) related to further professionalisation of sales engineering might extend this study. Future research could benefit from engagement with those universities who have designed degree programmes in sales engineering (e.g. Checkis, 2009; Dunn, 2009; Kairisto-Mertanen, 2017; Klein, 2009) or with industry associations striving to establish professional codes of conduct and accreditations for SEs.

Future research topics could also narrowly focus on sales engineering's impact on S-D logic in B2B selling. These studies might include topics such as an engagement of groups of both SEs and buyers to explore, examine, and evaluate approaches to value creation. Additionally, future researchers might consider employing action research to develop greater awareness, consideration, and use of S-D logic by the broader B2B organisation or focussing on B2B buyer–seller engagement.

Finally, for researchers focussing on a study of identity, identity work, or influences on professional identity, the following topics might be useful in the future: Future researchers might consider a study that extends this thesis to include the professional identity work of other members of the B2B sales team, managers, and buyers. Additionally, researchers could consider action research related to the organisational, interpersonal, or societal influences on professional identity work and construction.

At the conclusion of this research, and in reflecting upon the many potential paths for similar studies, one may conclude that the areas of B2B selling (specifically, team dynamics), sales engineering, the reification of S-D logic, and applications of identity work all represent abundant opportunities for future research. In particular, the practice of sales engineering remains so underrepresented in the literature on B2B selling that research related to sales engineering alone could keep scholar-practitioners busy for decades to come.

6.5 Personal Reflections on the Research Journey

Guided by Brookfield's (2017) approach to critical reflection, I felt it was important to critically consider my own assumptions, position as a practitioner, inquiry as a scholar, and learning that has taken place through the process of researching and writing this thesis. Brookfield encourages those who would embrace critical reflection to view their practices through four lenses (p.61):

1. **Assumption analysis** whereby we challenge our beliefs, values, cultural viewpoints, and social structures to assess their impact on our practices.
2. **Contextual awareness** in which we acknowledge that our assumptions are individually and socially constructed within a specific and historical context.
3. **Imaginative speculation** through which we imagine alternative ways of understanding phenomena and challenge our current ways of thinking or working.
4. **Reflective scepticism** whereby we suspend judgement and question what we might consider universal truths that are unexamined or writ large in practice.

This research journey represents one of the most challenging, all-consuming, maddening, but simultaneously exhilarating and liberating pursuits I have undertaken in my life. The journey itself has taught me a great deal of what I now know, and still do not know, about what it means to be a skilled researcher. Undertaking this programme and study has changed me as a person by allowing me to catch fleeting glimpses about what it means to be a scholar-practitioner. Qualitative research is at once frustrating and liberating. Likewise, action research is an approach that has, at times, made me feel energised one minute and powerless the next.

Critical reflection, particularly concerning assumptions that I have brought into this process, contains a certain amount of personal risk in sharing these reflections as one must become vulnerable to the 'gaze' of others (Brookfield, 2017). As an 'expert' consultant in this field of practice that I have chosen to research and take action in, it is tempting to believe that I should have already possessed many answers about what it means to be an SE. I do bring three decades of experience to this research, but my engagement with this topic is now as a consultant rather than a front-line practitioner. As such, I have tried to remind myself throughout this study that it is the participants that I have aimed to study and engage in action while my own expertise must always be viewed as a potential barrier to seeing new insights or creating new knowledge.

One of the most pernicious challenges that I have faced throughout this programme is the feeling of being an 'imposter' as a scholar. Throughout the programme, in the course work and through to the thesis phase, I found myself asking the question, 'Do I have what it takes to be a scholar—do I have the skills and the mindset that is required of a scholar-practitioner?'. Even as I write these words that feeling of being an imposter—trying to do something that only 'real' scholars do in academia—is at the back of my mind. Throughout the thesis phase of this DBA programme, I have had to remind myself of the feeling of progress, discovery, engagement with my participants, action toward new outcomes, and the thrill of new insights to reassure myself that I am indeed a scholar-practitioner.

My position as an industry insider granted me a head start with my research participants, but it also meant that I came to this study loaded with baggage, biases, and blind spots that needed to be acknowledged and unpacked. Thankfully, the use of action research meant that my research participants were also my collaborators, this meant that my assumptions came under scrutiny as part of the research as well. Baggage, biases, and blind spots were no match for the smart research participants who constantly challenged my assumptions related to any statements that sounded like 'the way we used to do things when I was in your shoes' and the tediousness of any references I might have been tempted to make about 'the good old days' while working with my participants.

I came to this study with an assumption that the SEs that I would encounter did not fully appreciate the complexity or importance of synthesising engineering and sales in their roles. That is the way things were when I was in the role. I was wrong. I also entered the study with a bias that SEs would resist the 'sales' part of the role in favour of being more grounded in the technical aspects of their 'engineer' identity. Again, I was wrong. Being wrong in both of these areas that were critical to the research allowed me to open up entirely unexpected paths of discussion and action with the participants. The willingness with which participants embraced trying new things, particularly on the 'business side of the house', was surprising to me as an 'old timer' in the SE practice. In the midst of the action research, I remember a particular point at which I felt two opposing emotions. I experienced excitement that I was seeing new insights through the actions that I was taking with and through participants. However, this was mixed with a bit of melancholy in seeing the participating SEs do things that I wished I could do—working with customers, designing solutions, and working toward the delivery of value with customers.

Contextually, I recognised that there were a number of other real or perceived complications that I brought to the research. As a consultant to many technology companies who have their regional headquarters in Singapore, I was a known quantity to some of the participants. This meant that I had to be careful to ensure that participants did not feel any pressure to participate and that they had an open door to be unguarded, honest, and critical—even if critical comments were about me. Culturally and socially, I constantly worried that I might unintentionally push the research in a particular direction. As a consultant this is something that I have long been sensitive to.

Further, even though two-thirds of my career has been spent in various parts of Asia, and Singapore has been my home for many years, for those who don't know me the first impression that I give off (physically and verbally) is that I am a Westerner. The majority of the participants in this study were of Asian descent and for at least one-third of the participants English is a second language. It is to these areas of context that I knew I must be sensitive to the unconscious bias that I might have, culturally speaking, and that my participants might have about me.

Finally, there are certain other assumptions that I have brought to this study about the practice of sales engineering and particular pre-existing business notions that I have carried into the research. It was to break away from these deeply ingrained ideas that I chose to apply what Brookfield (2017) calls imaginative speculation and reflective scepticism. I believe that this study contributes new knowledge for the benefit of scholars and practitioners. However, as a critically reflective practitioner, this is just the beginning. The conceptual frameworks put forward in this study must be 'road tested' even further, for longer periods of time, across a broader set of individuals. It is only through further field-testing, refining, and extending this work that my research will stand the test of time and generate real value.

Perhaps at the beginning of this research journey, I might have believed that this thesis write-up would conclude with neat answers and only a few loose ends. Though answers to the research questions have surfaced, and new knowledge has been created, even more questions and gaps have been uncovered than answers given. It is to these questions and gaps that I hope to again turn in research, action, and discovery. For herein, there are enough research paths to pursue for the equivalent of many lifetimes.

6.6 Conclusion – Two Worlds of the SE with One Value-Oriented Objective

Sales engineers operate in what, for them, can feel like two different 'worlds' of engineering and sales. Expert SEs have learned how to synthesise these two worlds into an outward practice that is unique and valuable in the context of complex buyer–seller relationships. As the B2B selling environment becomes increasingly technicised and oriented towards measurable creation of positive business outcomes through the design of solutions and approaches that create 'value in use' for the buyer, SEs face the opportunity to play an increasingly important role in the buyer–seller dynamic.

This study sought to explore and illuminate how expert SEs construct their professional identities, synthesise the two disparate 'worlds' of engineering and sales, and perform the SE role in the context of a rapidly transforming B2B selling environment. In the process, this research has created new knowledge through exploration, interpretation, and actions taken within the lived experiences and work lives of a group of practising SEs.

A key outcome of this study is the presentation of a conceptual framework outlining the SEs' professional identity and role performance (i.e. the SERIF). This conceptual framework seeks to provide a coherent method for scholars and practitioners to understand, apply, and engage with the practice of sales engineering. By creating new knowledge, this study has also made a contribution to the literature concerning B2B selling, and specifically the study of sales engineering. Furthermore, this research also offers practitioners the opportunity to understand and engage with the practice of sales engineering in a more informed manner.

It is my desire that SEs and their managers might more effectively and successfully navigate the increasingly technicised B2B selling environment by applying relevant knowledge and actions from this study. For managers who have previously found it difficult to consistently hire, develop, and retain SEs who possess, and can synthesise, the necessary levels of engineering and selling expertise, it is my aim that these B2B leaders might find practical applications of specific findings in this work. Finally, as SEs hone their skills to support the decision-making process that their B2B buyers undertake, my goal has been, and will continue to be, to provide practical insights allowing SEs to more fruitfully practise their craft with a value orientation that will benefit both buyer and seller in the pursuit of positive business outcomes.

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Appendix A: DBA Ethics Committee Approval Letter

Dear Jim Wagstaff,

I am pleased to inform you that the DBA Ethics Committee has approved your application for ethical approval for your study. Details and conditions of the approval can be found below:

Committee Name: DBA Ethics Committee

Title of Study: When Two Worlds Collide: Advancing Sales Engineering in B2B Selling by Understanding the Synthesis of Engineering and Selling as a Lived Experience

Student Investigator: Jim Wagstaff

School/Institute: School of Management Approval Date: 22.02. 2018. The application was APPROVED subject to the following conditions:

1. The researchers must obtain ethical approval from a local research ethics committee if this is an international study
2. University of Liverpool approval is subject to compliance with all relevant national legislative requirements if this this is an international study.
3. All serious adverse events must be reported to the Sub-Committee within 24 hours of their occurrence, via the Research Integrity and Governance Officer (ethics@liv.ac.uk)
4. If it is proposed to make an amendment to the research, you should notify the Committee of the amendment.

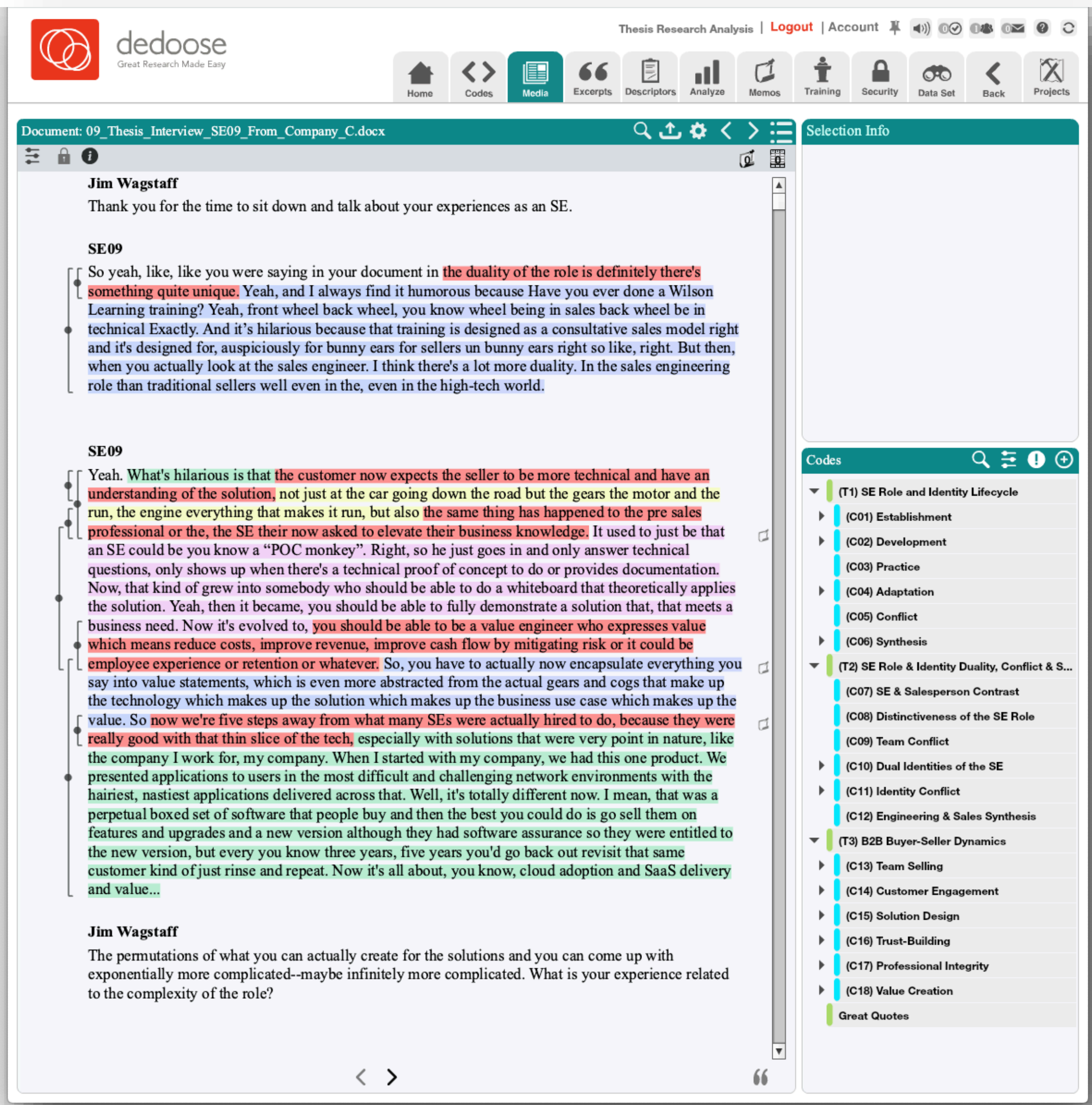
This approval applies to the duration of the research. If it is proposed to extend the duration of the study as specified in the application form, the Committee should be notified.

Kind regards,

Dr. Awolusi Olawumi

Member, DBA Ethics Committee, University of Liverpool

Appendix B: Coded Sample of Transcript - Participant SE09 'Ian'



Appendix C: Sample Transcription – Participant SE03 'Christopher'

SE03 Initial Interview – 'Christopher'

Jim Wagstaff OK. All right. Well, thank you so much. Maybe we could start off by getting a sense of your background. How, when, and why did you first become an SE?

SE03 OK. Sure. So, I'll probably start with my educational background and then I'll jump to my experience. OK. OK. So, from an education perspective, I've done a bachelors and master's degree both. I have a different perspective here because my bachelor's degree was in biology—botany, geology, and chemistry. I did my bachelors and then I kind of grew into the interest of computing and networking. So, then I did a masters in computer applications, MCA, it's a three-year course. And after that, I immediately started to work with a company called [redacted] I stayed there for about a year, a large systems integrator and service provider in [redacted]. So, a couple of stints with [redacted]. Initially, my role was more of providing technical support on the phone. Then I go into one year of security--network security. At that time, cybersecurity was not very popular, or a familiar buzzword. So was still a network security role. And then I started--after [redacted] is when I got into a company called [redacted]. It was when I got the experience of working in a technical assistance centre--TAC. So about six to eight months of TAC and then about one year of working as a pre-sales engineer. So that's my first company when I started working at the systems engineer in [redacted]. So, I've been an SE since 2007. So, 12 years since I've been in pre-sales. Initially a couple of years in [redacted] I spent about a year in a company called [redacted]. I'm not sure if you know them. It's a small load balancing company. And I spent five and a half years in [redacted]. [redacted], in particular, was really interesting and kind of one experience which professionally I grew quite a lot, that's what I believe anyway. Because I was the first SE to be hired in [redacted] and I switched different roles. Initially, I was the regional SE, then I was given the charge of enterprise accounts and then eventually the last two and a half years, I did pre-sales engineering for service providers. Mobile carriers--the likes of [redacted] for example. After [redacted] is when I got into [redacted] Since the last three and a half, four years, I've been associated with [redacted] Initially, I was the SE for channels. My responsibility was to develop the channels in the country for one, one and a half years. And then I got into the role of. doing field SE work. Again, one, one and a half years. So, in summary that's what I've been doing. It's a mix of, you know, post-sales, technical assistance centre, working in different technology, security, application delivery. The maximum time I've spent with a company is with [redacted] for about five and a half years.

Jim Wagstaff OK. Great. Thank you for that.

SE03 Sure.

Jim Wagstaff Just so I've got that right, you've got about 12 years of experience in the SE related role. And then what's your total professional experience?

SE03 So since late 2003, about 16 years.

Jim Wagstaff Got it. OK. That's interesting that you have a biology background. And then did you actually go back to school with the intent to get into some sort of technical career path? Are you more self-taught on technology? How did you come to your expertise?

SE03 So after I completed my graduation as I said, I got into my master's degree in IT, so MCA. The pre-requisite in some of the universities is that you have to have a computer bachelor's degree to be able to get into masters by. Some universities are lenient. So, they allow students from different backgrounds to get into the computer world because they kind of sometimes starting from the first six months is pretty much basics and then they get into the details. So that's how my interest was--into the IT side and I got into the MCA programme.

Jim Wagstaff Got it. OK. I happen to be a self-taught SE. So, when I was an SE, my education was more on the communication side of things. And I got into being an SE in a roundabout way. There are others who didn't really start out to be an SE necessarily, but they had an engineering or a technical education background. It's kind of interesting to hear everybody's story in that way.

SE03 One more interesting point if it's, I mean if it's something that worth noting. I've never got any certification. I've seen a lot of people in my field doing certifications right from the beginning of their careers, doing CCNA, CCNE, CCIE or doing certifications, professional certifications like CISSP or CEH. That's one thing that I've never attempted, and I--to be honest, I've never felt the need of it. My career has progressed the way I've liked it, too. So far, things have done well. And in future, I'm not sure if I might get into some sort of professional certification or a course, but as of now, I've not done it. This is something that I feel like most of the guys would do in a similar field, but I have not done it.

Jim Wagstaff It's interesting you bring that up because the part at part of the emphasis of this overall study—the professionalization or at least exploring the professionalization of the SE role. In some universities you can actually get an SE degree. But in most countries and in most situations, the SE role is one of those unusual hybrid roles where you have a mix of technical and selling skills that are required. And so, it's difficult to say, well, what's the certification that you would apply to that? Because the knowledge base is so broad that you have to have. And it's and usually, it's very company specific. So, it would be difficult to certify someone as an SE. That's one of the things that we're exploring. So maybe just a bit more about you and the emphasis of these questions that I'll ask you. Feel free to differentiate between your [redacted] and [redacted], but I guess. How did you become a sales engineer or how did you come to the role of the sales engineer? How did you discover that this was something that could be a good fit for you if you remember back to when that took place?

SE03 So the driver of this part of getting into the sales engineer got into me when I started to work for [redacted]. Because my background was, you know, typical network security or TAC or remote help environments. Particularly after spending six to eight months I realized that I could add more value to the organization and grow professionally better by being in front of the customer face to face. Back-end TAC support was more remote and telephonic, wasn't much of customer interaction, and the second thing was in the TAC, I realized that solving customer problems. It was something that I liked a lot and I thought why just do it after the sales? Why can't I do it before the sales so that it helps to get some business in the company as well? The desire to be in front of the customer, to grow professionally, to be thought of as somebody who is able to solve real-world challenges—that's something that kind of encouraged me to get into this role in the first place.

Jim Wagstaff Did anybody point to you and say you would be good at an SE role or did you have anybody who encouraged you either through pointing out skills that you had or maybe as a role model was anything like that went on when you decided to become an SE? How did you become who you are today as a professional?

SE03 Yes. Yes. In fact, my manager at that time encouraged me a lot. So, when I went to him and said, this is what I feel I should be doing. He was more than happy to say yes.

This is also what I feel is my next part for you. And he was quickly able to identify or take my proposal to the management and help me get through the transition because my manager at that time was managing both the TAC and the pre-sales team. So, it was pretty easy for him to help me transition and also convince the management saying I feel this resource is underutilized and we can put them into a place to get better returns for the company.

Jim Wagstaff Good for both of you. Do you remember, was there anything in particular from a knowledge or skill perspective that your manager pointed to as being something that made you stand out as a good fit for the role?

SE03 Communications basically. Being in front of the customer and being able to articulate. When you are in back-end troubleshooting, you are kind of focussed on to solving only technical problems. Looking at the customer's current business issue. But one of the initial things that my manager highlighted to me was being able to, you know, articulate and communicate effectively. Listening was primarily the skill of a TAC so that was never a problem to become an SE which is I think is very important to be a good SE, you have to be a good listener. Communication is something that he worked with me--I think he's spent about three to four months' time with me, guiding me, coaching me, mentoring me through that phase. And eventually, I felt, you know, probably this was this I was probably destined for this kind of a role.

Jim Wagstaff That's interesting that you bring up the point about listening. That's really important. And you're right. It might be your experience of having to work through challenges with customers, having to listen. Probably also having to learn patience was good training for what you're doing now. I guess what you eventually did as an SE in those first few years especially.

SE03 I believe listening is one common skill which helps you in all ways--professionally or personally. The importance of this, I realized, especially when I changed from post-sales to pre-sales, that is when I realized that it is such an important ingredient--to be a good communicator and being a good problem solver. It helps SEs quite a lot.

Jim Wagstaff Definitely. That's important. Well, let me ask you a couple of questions. And this will be specifically about the role of the SE so, you can kind of think about your entire experience as an SE over the years that you've operated in that role. But if I were to ask you as an SE, who are you? What does it mean for you to be in SE? What comes to your mind?

SE03 The first thing that comes to my mind and is helping the company to do business. That's my first motive. And the second is the additional part is when you are working with the company and you're solving customers problem, you also get that kind of benefit saying apart from business, you're also solving customer challenges and helping them go through their journey of transformation or security or cybersecurity architecture. So, for me, essentially, it's a mix of both. Let me know if it's too short of an answer.

Jim Wagstaff That's great. Does anything else come to mind? Anything else come to mind in terms of maybe what it's like for you or what it has been like for you to be a sales engineer? Some more of the experiences that you've had or maybe the motivations that you've had to remain a sales engineer.

SE03 So for me, my motivation to remain a sales engineer has primarily been because I'm able to get the experience of solving problems by interacting with different customers almost daily. I love it. When you're an SE, and you're in the field almost every day, you might be talking to a different person, with a different perspective, every single day'. So being an SE, it's also a key part of solving a problem in different ways because there is no silver bullet, which I believe for pre-sales. You kind of have to act according to the situation and that will all depend on the customer, their business, their challenges, and all other environmental components. So that's also kind of defines being an SE.

Jim Wagstaff Is there anything that you don't like about the role of an SE or any experiences that you had where you can point to and say, that's the part of the job I don't like?

SE03 So initial part of my SE career, probably a couple of years or two or three years. The organization structure was such that, you know, there might be a significant amount of post-sales that was supposed to be done by the SEs and that was the culture of the previous organisation. But in the last eight to nine years, my experience has been different. I've been able to focus most of my time on pre-sales and less on post-sales. What I believe is one of the factors that will demoralize or--I'm sorry if I'm using very strong words--are kind of, you know, makes the SEs rethink is the amount of time they spend on after-sales stuff versus the pre-sales stuff, right? Yeah, but this has not happened in last eight to nine years. Only in the initial couple of years is when it happened.

Jim Wagstaff I understand. Also, if anything comes to mind, maybe this is something that when we talk next week if you might have had some different experiences. Because it sort of leads me to my next question, what is it like for you to be both 'technical' and 'sales' at the same time?

SE03 So in my own experience as a pre-sales engineer is—well, the job is a mix of both technical and sales skills. My own experience is that about 60% of who I am is as somebody who is making a technical contribution and about 40% is where I have to think like a salesperson. It's essentially a combination of both. So, I believe both of them are key ingredients and. As a SE, for some people, it might be a professional growth to increase that 40 per cent to probably say 60% of sales of 40% of pre-sales, and that's when they get into the role of something like a solution architect wherein they're able to articulate more customer business problems and then attach it to a technology. But conflict--I cannot recall any situation or an instance when I felt this was, you know, any conflict in the way I used to operate.

Jim Wagstaff So let me just drill a little bit deeper on that. So, I think this will probably be an interesting question, maybe a difficult question, trying to think back in terms of your overall experience, with this blend of shelling and technical skills. Were you ever conscious of that? In other words, did you have to shift gears, so to speak, between--oh, now I need to be more technical. Now I need to be more maybe sales or influence oriented. Is that something you ever consciously aware of and consciously navigating?

SE03 Might have done that unconsciously. But I don't recall a consciously thought about switching gears. So, sales to pre-sales. For me, the account dynamics matter quite a lot. And to be honest, whenever I've worked with RSMs, there are certain accounts that the RSM has better control. But there have been a few accounts there using the technical relationships, I was able to build that kind of a rapport that I was a good drive into and deals sometimes as well without taking help from an RSM. I might have done that unconsciously or because of the relationship that I had in the account. But consciously, I never thought this is a situation that now I need to act more like sales. I recall now.

Jim Wagstaff Just in terms of your own development and thinking about your own career. Is that something you've ever spent any time thinking about? Balancing technical and sales in your role or in your skillset or in your approach to customers?

SE03 So in most of these situations, in a typical pre-sales engagement, I would say 60 40 is still the same rule of thumb that I would like to apply. But I don't recall any situation that and I to know specifically recall this kind of a mix and say I need to change this because of the situations and like I've done it unconsciously.

Jim Wagstaff So, a related question to that would be, how would you explain who you are as an SE to other people?

SE03 Well, the combination is something that is developed from years of experience. And you can develop this by only being, you know, being self-responsible for part of the business. Because when you only think that your responsibility is technical, you're kind of shying away from the business responsibility. And to be honest, I did not have the skill or this kind of a way of working when I initially started. Maybe somewhere in the middle of my career, I realized that to be a successful SE, you have to be able to, you know, get into both sales side of it or the business side of it, only then it will help you to become more successful in the accounts you are working in. And so I believe this is more of an experience.

Jim Wagstaff When was that point in time where you had that realization? What was that experience of realizing, oh, I need to bring the business part of who I am a little bit further up in my skill set, the knowledge that I have, the skills that I have, the outcomes that I'm driving? How did that happen and how did you begin to develop those business skills?

SE03 Yeah, I do recall. So the driver was I was without an RSM for about 1 year. The initial three months, to be honest, I didn't know what to do because initial part of my pre-sales I was more of doing something that was supposed to be done or asked to be done. Saying This is your account. This is the opportunity. This is the POC or whatever that needs to be done. And suddenly you get into a situation where there is no RSM and there is hardly any opportunity that you have to. work on because nobody is there to, you know, get the deals. That was a phase when they after, you know, for a quarter or so, I realized that if I don't change it right now, then it could be a problem in the longer run. And that's the initial driver for me to be able to do that.

Jim Wagstaff Got it. And then what did you do about that? Clearly, you had to jump in and probably take over some of the things that the RSM would be doing. But do you remember any experiences where you actually did something consciously?

SE03 Yeah, yeah, I did something. Some of one of the things that I recall is because I did not have the RSMs. I started to leverage the sales team of the partners and said, it's okay, I don't have an RSM, but we can work together. You help me to identify the opportunities and once you get me the opportunities, we'll work together to get this to closure. So, the initial phase was taking help from the partner sales team. And then once you kind of into the account and then you build a rapport and then you're the only one from the product company talking to the customer, they kind of get into that kind of a conversation that you also get a chance to be doing things that are done typically by the business guy or the RSM.

Jim Wagstaff The way that all of us have our professional identities shaped in whatever role we're in over time is largely through the way that we engage other people, the way that we interact with other people. So, in your experience, think about how you've grown in your career. How have customers and colleagues and partners helped to shape that?

SE03 So I would say initially there was a lot of help that I receive from my colleagues. The initial part of my career, my managers guided me quite a lot. In the later phase, it was a combination of customers and of partners when I did not have the RSM. This got me the opportunity or help or, you know, inputs that I needed to be more successful so it's a mix of that initially my internal people and then customers and even now I mean. When you're working for a large company like [redacted]. There is so much help available around, you know. You just have to grab whatever help that can be and can be available. So that continues. I mean, internally, people help quite a lot more than my initial part. What helped me to become more business-oriented was most of it was because of the customers and a bit of it because of the partners when I did not have the RSM.

Jim Wagstaff And the flip side of help is often challenges or difficulties, struggles that we go through. Can you think of any experiences that were particularly difficult or maybe struggles or challenges that you had with customers or partners that caused you to really think about who you are as an SE potentially drove you to become better? Were there any things that happened like that?

SE03 Yeah, initially when I kind of got into mix of technical plus business kind of approach. One of the first challenges I probably recall is trying to balance the, you know, both the things because I did not know what the right percentage was. That's something that I learned over time. Initially, my challenge was how much time should I focus technically and how much time should I focus on the sales side of it. And some of it was initially I was kind of driven initially from an engagement, point of view. Whatever would come my way, I would do it. But eventually, you realize that what is the right combination and accordingly you start to leverage the resources. For instance, if I think 40 per cent is the right amount of business angle that I need to step in, if I realize that this particular account requires more than that, I would have somebody step in and help me with pursuit because as an SE I have to balance both of the things.

Jim Wagstaff Because it sounds like being aware of the situation, being aware of the requirements, maybe even being aware of your own limitations in certain areas. Or your comfort zone.

SE03 You're right. You're right.

Jim Wagstaff Have you got any KPIs that you're particularly focussed on? How are you managing your business?

SE03 Quite a few things I have tried to pick up from my previous bosses or the current boss, how I drive things. Of course, the business is one driver but ideally, I want to make sure I'm driving the right customer outcomes.